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MEDICAL PRIZE ESSAY.

An Essay, Pharmacological and Therapeutical, on Sanguinaria-Canadensis, with a plate. By WILLIAM TULLY, M. D. of Albany, New York.

"Expertus loquor."

INTRODUCTION.—In the succeeding Essay on SANGUINARIA-CANADENSIS, I shall frequently employ the term *deobstruent*, not only to denote a particular operative effect of certain remedies, but also to denote the whole of the remedies, as a class, which are capable of producing the effect in question. This operation I believe to be at once certain, prominent, and very uniform, as occasioned by each individual article, and at the same time of great importance in the treatment of diseases. The power of producing it is very often the principal, and sometimes almost the sole property of the remedy to which it belongs, and yet it is a property but little noticed by writers on Materia-medica, and within my knowledge not recognized by any late author as characterizing a group of articles. Some introductory remarks therefore on the general powers and operations of this group of remedial agents, is not only proper, but necessary, to a thorough understanding of the subject upon which I am about to enter.

By *deobstruents*, I intend such articles as produce a general change of condition or action in the whole secernent and absorb-

ent systems, and more especially remove torpor, and occasion improved and increased secretions from the liver and other digestive organs, and also from all the glandular viscera; and in all probability, by virtue of this operation, relieve certain dysthetic or cachectic diseases, and certain affections of the skin, and often likewise produce a direct resolution of many atonic, acute, sub-acute, and chronic inflammations, not only of the cranial, thoracic, and abdominal viscera, but also of the muscles and the joints of the extremities; the whole independent of any direct change in the degree of the vital energies of the arterial system, or any material evacuation of any sort, as necessary accompaniments.

It is true, the term deobstruent is often found in the writings of the older physicians; and at no period since its first introduction into the science of medicine, has its use been entirely discontinued by authors or practitioners. It doubtless derived its origin from the humoral pathology, and in strict conformity with that absurd hypothesis, and indeed with the literal import of the word itself, it is ordinarily defined in books to denote such articles as are capable of removing obstructions of any sort. There is sufficient reason to conclude that the term was originally applied, though with very considerable looseness, to distinguish several articles of the same group of medicines to which I now propose to apply it. But the perfectly hypothetical nature of the received definition, together with the fact that most of the articles which it was intended to include have other prominent properties, besides their true *deobstruent* powers, has doubtless been the cause of the discontinuance of such a class of remedies, in all the modern systems of Materia-medica; and the whole of these circumstances in conjunction has thus served to divert the attention of physicians from the most important—the most useful powers of a very numerous set of articles.

Eli Ives, M. D. of Yale College, as far as I know, is the only late public teacher, or author, who has attempted to re-establish this so ill-defined, but unjustly neglected class of remedies. I have been informed by some of his pupils, (though not by himself,) that he defines it as comprehending "*such articles as operate particularly upon the viscera*," and if I do not misremember, "*the viscera of the abdomen.*" It appears to me that this definition is so general as to include a considerable number of the best established classes, and besides, is not sufficiently descriptive.

It has long been perfectly well known that a sufficiently continued use of various preparations of Mercury, in moderate and uniform doses, and at regular intervals, is capable, after a longer

or shorter time, of effecting a radical cure of Lues Syphilis. Again, it is equally well known, that under the same management this remedy is capable of curing certain cutaneous affections; that in certain functional derangements of the liver attended with a deficiency in the quantity, and a vitiation in the quality of the biliary secretion, the same course has the power of improving the quality, and increasing the quantity of the bile, and finally of removing the disease upon which these derangements depend; and lastly, it is likewise equally well known, that in certain visceral inflammations, it is often capable of producing a complete, though gradual resolution of the local affection, and thus, of arresting the progress of the disease, without suppuration, or any of the ultimate consequences of inflammations of any sort.

Now it may well be asked, by virtue of what operation of this remedy is each of these effects accomplished? On reference to the best authors, we shall find, that all the powers by them ascribed to Mercury are those of an emetic, a cathartic, a diuretic, a diaphoretic, an expectorant, an emmenagogue, and a sialagogue. To these perhaps should be added, in conformity with the views of some, an anthelmintic power. This, at first view, would seem to be a sufficiently extensive catalogue of properties, though it is believed that the claims of Mercury to the production of a greater or less degree of the whole of these operations, at least in certain cases, under certain management, and with certain auxiliaries, can be well established. Are the effects now under consideration to be ascribed to the sialagogue power of Mercury? It is certain that they may all be equally well produced without the occurrence of this operation, and by preparations that scarcely ever occasion any ptyalism. Besides, mere ptyalism may be excited by other means, without any favourable influence upon the specified diseases. Will it be said that these effects are caused by the diaphoretic power of this remedy? A diaphoretic operation does not seem to be at all essential to their production; and mere diaphoresis produced by other agents, is of comparatively little service in those diseases, in which Mercury is the most useful in this way. Does any one suppose that these effects are the consequence of the cathartic operation of this article? The effects to which I refer, are in general materially retarded, if not entirely hindered, when the remedy produces much catharsis; and the production of mere catharsis by other means, is of no essential, or usually of no appreciable service, toward the production of the desired effects. The same may be said of the diuretic and emetic operations of some preparations of Mercury; and likewise of its occasional

expectorant and emmenagogue effects. But I had nearly forgot that a stimulant, and a tonic operation, are sometimes ascribed to Mercury;——and—do not the effects in question result from the exertion of one or both of these powers? In which of the specified cases, however, will any mere stimulant and tonic supply the place of Mercury?——or—does Mercury in fact possess any true stimulant or tonic properties?

The word stimulant is doubtless used more variously, loosely, and indefinitely, than any other term in medicine. I have elsewhere pointed out the several senses, in which it is most generally employed at the present day, and have maintained that the only intelligible and legitimate sense in which it can be employed is, to denote such articles as directly produce a greater or less increase of the *strength* of arterial action. Some author has observed that the only correct use of the phrase "*increased excitement*" is in the sense of an increase of the vigour with which all the functions of life are performed in all their different degrees. At first view, however, it is evident that this is too strict a limitation of the acceptation of this phrase, since in this sense, increased excitement could never be predicated of disease. But increased strength of action in the circulating system is probably essential in all cases to truly increased excitement, as a general condition, in contradistinction from some merely local and purely partial complaint; and the production of a greater or less degree of this increased excitement, either transient or permanent, is doubtless necessary, in order to constitute a true stimulant operation. The same effect too is equally necessary to a true tonic operation. In mere stimulants, however, it is usually transient, but in tonics, it is more or less permanent. In mere stimulants it is not necessarily connected with any other effects; but in tonics, it is essentially accompanied with an increase of appetite and digestive power, and a greater or less increase of nervous and muscular energy.

Assuredly none of these operations ever result from Mercury. Mercury certainly never increases the strength of arterial action —never increases appetite and digestive power—never increases nervous and muscular energy—and, above all, is never capable of operating as a restorative, in pure debility or exhaustion. Mercury, too, is always totally incapable of supporting the powers of life, during the continuance of any purely atonic, and exhausting acute disease; at least not at all in the manner of Alcohol, Wine, Cinchona, or any other unequivocal stimulant, or tonic. On the contrary, its effects are always more or less debilitating, whenever its use is continued long enough to bring the whole system under ts influence. These facts, I think, very effectually set aside all

the supposed claims of Mercury to rank among the stimulants, or tonics, and thus far, leave the operations which we have been more especially considering, without either classification or recognition. It is in vain to call these operatiions antisyphiltic, antipsordic, anticteric, or antiphlogistic effects, meaning by such terms to express merely the insulated powers of obviating these individual symptoms and complaints, instead of some general operations, by which not only these particular cases, but other complaints of the same function may be remedied. Upon this plan, we should be led to the adoption of as many distinct operations of medicines, as there are symptoms and diseases which are capable of relief by any agent; whereas, it is well known, that many different symptoms, and many specifically distinct diseases, provided they affect the same function, are capable of removal by the same identical operation. It is equally futile to rest with denominating these operations a *mercurial action* merely, since, upon this plan, we should be necessitated to admit as many distinct remedial operations as there are individual remedies. That Mercury in producing these effects, does it in a somewhat peculiar manner, cannot be denied, and it is equally true that it produces its cathartic and emetic operations in a similarly peculiar way; which, in all probability, may be said of every operation, of every article, in the whole Materia-medica. That part of the system whose functions are principally affected, during those particular operations, whose nature I am discussing, is undoubtedly the secernents and absorbents; and I think there is no room for any reasonable question, but that the cure of Syphilis, of certain cutaneous affections, of certain functional derangements of the liver, and the resolution of certain visceral and other inflammations, are all equally accomplished by Mercury, in consequence of the change of condition and action, which it produces in the secernents and absorbents at large. If this sort of operation to which I refer, were in truth produced by Mercury only, it might be sufficient to mention it, as a peculiar and anomalous effect of this agent; but as it belongs to a very numerous group of articles, to some, it is true, in a greater, and to others in a less degree, than to Mercury, it must be considered as sufficiently important, to deserve particular specification, and sufficiently useful in Therapeutics, to merit particular study; and since many agents seem to possess this single property only, without any other in addition, it is therefore unquestionably proper to make it the foundation of a medicinal class.

When detailing those particular powers of Mercury, which should be designated by the term deobstruent, I observed that

all of them were perfectly well known. If either, however, is not universally recognized, it is that of producing a resolution of certain inflammations. If any physician has never had personal experience of this operation, he will find no difficulty in obtaining sufficient testimony on this point, both from authors and practitioners, to satisfy every reasonable mind. But this power is, in some respects, considerably more prominent in Colchicum-autumnale than in any preparation of Mercury; and it has of late attracted so much notice, that no man engaged in actual medical practice can be supposed to be altogether ignorant of it. The power of Colchicum, however, to remove torpor of the liver, to change the quality and increase the quantity, not only of the biliary, but of all the other secretions into the alimentary canal, and to alter the condition and the action of the whole secernent and absorbent systems, thereby remedying many general diseases of that function, has, as far as I know, been pretty much overlooked, or, at least, has not been very definitely observed and pointed out. Any person who will carefully attend to all the effects of a free use of this article, will find no room for any doubts as to the fact that it possesses all these properties. Two species of Veratrum, viz. Veratrum-album, and Veratrum-viride, are at present pretty generally known to possess very nearly the same medicinal powers as Colchicum; and judging not only from the common systems of Materia-medica, but also from those of Therapeutics, these would seem to be the only articles that are generally known to have these properties. In conformity with these opinions, it would likewise seem to be the general impression, that the effects of each of these remedies are singular and unique, and that there are no other articles, whose operations have any particular analogy with them. From considerable attention to this subject, and from multiplied trials of many articles not generally recommended for such a purpose, I have been a long time fully satisfied, that the same properties are possessed by a very numerous class of articles, and that the United States are particularly rich in vegetable remedies of this character.

Although I am persuaded that the essential, and most important operation of this class of remedies is upon the secernent and absorbent systems, yet there is perhaps few of them, which do not more particularly affect some individual part, organ, or texture, or, at least, affect it more in proportion, than other parts, organs, or textures. Thus, for example, some exert a greater power upon the liver, others upon the lungs, others upon the uterus, others upon the kidneys, others upon the skin, and others still upon the salivary glands. It is sometimes difficult to dis-

tinguish these peculiar determinations to particular parts, from combinations of different and distinct properties. I should be much inclined to believe, that emmenagogue, expectorant, diuretic, and diaphoretic effects, were always the mere results of a general deobstruent operation, or, in other words, an operation upon the secernents and absorbents more particularly determined to the individual organs affected, were it not for the fact, that so many of the most active deobstruents are so often very nearly, if not entirely destitute of one or more of the powers in question, and perhaps in several instances, even of the whole; and that so many articles prominently possess each one of these powers separately, and yet do not seem capable of exerting any appreciable deobstruent operation. Certainly many of the most active deobstruents are incapable of producing a majority of these effects. Does the internal use of any article, except Mercury, uniformly and certainly produce ptyalism? A few other agents occasionally manifest this operation, though none, I believe, which are not decidedly deobstruents. Upon the whole, I am disposed to conclude that diuretic, emmenagogue, expectorant, and diaphoretic effects may take place, on the one hand, independent of any general deobstruent operation, and on the other may be the mere result of the exertion of a deobstruent power, thus affording foundation for a division of these effects into direct and indirect. Ptyalism, when the result of an operation upon the system in general, is probably always indirect, or, in other words, the mere effect of deobstruent powers. Even astringent effects, when produced upon other parts of the system, beside the alimentary canal, by remedies taken into the stomach, are doubtless indirect effects resulting from a general, though perhaps peculiar operation upon the secernents and absorbents. Emetic, cathartic, and narcotic powers are, in all probability, always perfectly distinct from deobstruent properties, being never, in any case, essentially connected with them. There is even considerable reason for concluding that deobstruent effects are sometimes indirect, as well as emmenagogue, diuretic, diaphoretic and expectorant operations. The Momordica-Elaterium produces a great effect upon certain diseases of the skin, and upon chronic ulcers, and it powerfully resolves certain inflammations, and this, apparently, as a mere consequence of its peculiar cathartic operation, and, perhaps, not independent of it, in any case. But Sanguinaria and Veratrum-viride are deobstruent independent of any evacuation which they may produce. When they are made to produce vomiting, this operation, it is true, often enhances their deobstruent effects, and probably always accelerates them, but then, it is not essential to their occur-

rence. In some cases, it is even a disadvantage. Colchicum, and probably Baptisia-tinctoria, as well as Apocynum-Cannabinum, are actively deobstruent, independent of any evacuation, but, in many instances, when they prove cathartic, this operation enhances their deobstruent effects.

The propriety of the definition which I have given of deobstruents will be further confirmed, when it is considered that this aggregate of properties is often the whole, for which we can usefully employ many articles, that possess at the same time other active powers. For example, though Colchicum is an efficient emetic, cathartic, diuretic, and even narcotic, yet this article can never be employed with any advantage, and probably not at all without inconvenience, for any of the ordinary purposes of a mere emetic, cathartic, diuretic, or narcotic. The same remarks are probably applicable to Baptisia-tinctoria, Apocynum-Cannabinum, Iris-versicolor, and doubtless the greater proportion of those deobstruents which possess a considerable number of these additional powers. This circumstance, when contrasted with the opposite fact that no mere emetic, cathartic, diuretic, or narcotic, will accomplish the desired purpose, where a true deobstruent is indicated, seems to form a kind of *experimentum crucis* as to what is the most important part of the operation of these articles. This view likewise proves the incorrectness of the late medical arrangements of the Materia-medica, which reject deobstruents as a class, and distribute these articles among the other classes, according to the most prominent of their subordinate operations. Such a method must inevitably tend to bring the most valuable medicines into disrepute, and consequently into disuse, since the student and the young practitioner finding only such powers ascribed to them, as he soon ascertains they are worse than useless for, very naturally concludes that they are a mere incumbrance to the Materia-medica, and not worth retaining in practice.

The Proto-Chloride of Mercury is, however, an exception to the foregoing remarks, since it may often be employed with the greatest advantage, for perhaps all its other operations, as well as for its deobstruent powers; and even in cases in which no reference is had to any deobstruent effects, in addition to that for which it is more especially selected. Still, it is hardly one time in ten, in which we employ this article, that we do not rather desire its deobstruent operation, than any other which it produces.

Further, the great straits to which the arrangers of the Materia-medica are put, with respect to a place in their systems for most of the deobstruents, furnishes additional evidence of the

propriety of such a class. Indeed, for any pure deobstruent, like Leontodon-Taraxacum, no proper place *can* be found in any of the received systems of medical classification. This very article, for example, I believe, all the modern systematists place either among the diuretics or the cathartics; and yet, it is by no means capable of answering any of the ordinary indications for either of those classes. At least, as to its cathartic powers, I never saw any purgative effect result from the stated use of two ounces of the extract daily, for several weeks. I believe that this false arrangement has been one chief source of the disuse into which this article has fallen with so many practitioners. Sanguinaria is considered by the systematists as barely emetic, expectorant, and narcotic; though these are its least valuable properties. Veratrum and Colchicum are classed with the diuretics and cathartics merely, though they are probably never used for these effects alone. Polygala-Senega is ranked only as an expectorant, diuretic and cathartic. In fact, Cullen supposes that the latter is its only operation, which is "*constantly evident,*" and that upon which all its other virtues depend; and upon this hypothesis, he has theorized its deobstruent powers into annihilation. But although Cullen has pronounced it to be a cathartic only, it can probably never be used with advantage, in any disease for the purpose of a mere purgative. But of all the absurdities of this sort, with which I am acquainted, that of placing Mercury among the tonics, on account of its deobstruent powers, is assuredly the greatest. A tonic power, as I should think, would certainly be the last property, that any one familiar with the operation of this article, would be inclined to ascribe to it. Certainly this preposterous location will be rejected by every one who has ever been in the habit of carefully watching its effects in any considerable variety of diseases.

The pure and unmixed deobstruents never directly reduce genuine phlogistic action, and many, which possess other properties in conjunction, would doubtless aggravate it; consequently they are never to be considered as refrigerants, or true antiphlogistic remedies. On the other hand, they can never be advantageously made to support the powers of life, under a pure atonic and exhausting disease, nor to operate as restoratives in cases of mere debility; and consequently they can never be used as mere stimulants or excitants, in the legitimate sense of these terms. Their principal—their only useful operation as deobstruents, consists merely in changing diseased action or condition, without directly obviating phlogistic diathesis on the one hand, or debility or exhaustion on the other; and in all those diseases in which it is necessary to obviate either of these con-

ditions, in addition to the production of deobstruent effects, other remedies must be employed, either by way of preparation, or in conjunction. In other words, in order to the production of their best effects, it is necessary that the system should be within a certain range as respects strength or weakness of arterial action. During their operation, however, in all truly appropriate cases, a reducing or weakening effect, greater or less, according to the method of management, and the particular article employed, is, in most instances, an inevitable consequence. Some deobstruents, it must be observed, operate in this way to a much greater extent than others, and those which produce evacuations unquestionably debilitate the most; but still, even these do not operate well in entonic cases, and do not seem to reduce pure phlogistic action very effectually, even when they produce evacuations, and probably not at all, when they do not. When the general character of the prevailing diseases is phlogistic, reduction by some means or other, to a greater or less extent, is usually necessary, by way of preparation for the use of the deobstruents, but when the diathesis is atonic, an increase of the vigour of the system generally, is more commonly needed, either by way of preparation for, or accompaniment to, or at all events as a consequence of the employment of deobstruents. There are therefore but few cases, in which deobstruents do not require, as auxiliaries, either evacuants, narcotics, excitants, or tonics, according as there is entony, morbid irritability and irritation, or atony. Several deobstruents possess some of these qualities in combination. However, no article of this class, as I have before remarked, is known to unite genuine refrigerant, with deobstruent properties.

Although I insist that a *mere* deobstruent operation is neither a reducing nor an exciting effect, yet, as I have heretofore stated, there are few articles, which do not possess other properties in addition to their deobstruent powers, which affords ground for very considerable discrimination in the choice of an article of this class, for any particular case. I must again repeat, that I know of no article, which, in conjunction with prominent deobstruent properties, has any true refrigerant, or, in other words, direct reducing powers, and, on the other hand, I know of none that is so far stimulating as to supply the place of a simple excitant, where such an article is required. Leontodon-Taraxacum, for example, would not aggravate either a high phlogistic, or a low atonic acute disease, nor would it benefit either. The extracts of Solanum-tuberosum, nigrum, and Dulcamara, and also of Conium-maculatum, if given with sufficient freedom to produce strong effects, would probably aggravate both a high phlo-

gistic, and a very low atonic disease; but under ordinary management, and in conjunction with tonics, they rather enhance the invigorating operation of those remedies, in chronic diseases of a moderately atonic character. Actæa-racemosa is supposed by some to be moderately tonic as well as deobstruent, but from the circumstance that it produces a similar effect upon the nervous system to that of Digitalis, and also upon the urinary discharge, its tonic power may well be doubted. The extracts of Chimaphila-corymbosa and maculata, and of Andromeda-calyculata, are probably considerably tonic as well as deobstruent. Mercury alone, and in deobstruent doses, certainly will not subdue genuine phlogistic action, nor will it support the power of life, in cases of exhaustion, but after suitable depletion and evacuation, it will greatly assist in removing the remains of an entonic diathesis, when all true stimulants would be injurious; and in the early stages of pure and unmixed Typhus, provided it is not of too low a character, it may be used freely in conjunction with opium, without any material reducing effect. If long continued, however, even in moderate cases of any sort; or if used in very low atonic ones, it always reduces the vital energies, and that very considerably. The same is much more eminently true of Veratrum-album, Gratiola-officinalis, Polygala-Senega, and Colchicum-autumnale, which possess strong evacuant powers, in addition to their deobstruent ones.

I shall here remark, for the purpose of giving more precise and explicit information respecting the importance, and the proper use of the deobstruents, that although in high entonic or phlogistic acute Rheumatism, for example, depletion, purging, and refrigerants, or, in one word, reduction may be a necessary preliminary to their most safe, most certain and most beneficial operation, yet these measures alone cannot be relied on to cure the disease. Under a pure reducing and antiphlogistic course, this disease will always be extremely lingering and protracted, and will ordinarily continue, either till the susceptibility of the system to its peculiar action or condition is so exhausted as to be no longer capable of supporting it, or till the general powers of life are reduced below the range within which the disease is capable of existing, so that a spontaneous, but imperfect cure, at last takes place. Mere depletion, evacuations, and refrigerants, only reduce the strength of the several parts of the system to any degree which the circumstances may require, or the physician choose, but they leave the rheumatic affection with all its essential peculiarities entirely unchanged. On the other hand, in the most decided and the lowest atonic acute Rheumatism, though pure excitants and tonics may be strongly indicated, not

only to support the powers of life, but also to bring the system within the proper range of susceptibility to the impression of other remedies, yet mere excitants and tonics are as inadequate to counteract the peculiar quality of the complaint, and change the peculiar condition of the system, upon which the disease essentially depends, as an opposite course. The desired change must be accomplished by appropriate deobstruents, and these are to be considered the proper remedies for the disease, while an antiphlogistic course on the one hand, or an exciting and tonic one on the other, is to be considered as a mere auxiliary. In particular cases, it may be necessary to precede, to accompany, or to follow the deobstruent with one or the other of these courses, while in others, where there is neither entony nor atony to any considerable extent, and where the system is already within the proper range of susceptibility to the most favourable operation of the deobstruents, no preparatory, or accompanying, or subsequent medication of a different nature from the deobstruent course, will be either necessary or proper, as the course in question will be abundantly adequate to effect a cure. Although one part of this treatment may be as necessary as the other, yet it is by the deobstruent alone, that we overcome the essential peculiarities of the disease.

These principles afford the strongest grounds for discrimination in the choice of individual deobstruents, for particular cases. In those where a still further reduction of the strength of the action of the arterial system is admissible, the evacuating deobstruents, which are generally the most active, may be chosen, but in those where it is desirable to avoid further reduction, those deobstruents which can be so managed as not to produce any evacuation, are to be preferred. The different degrees of rapidity and energy, with which they severally operate, are likewise to be taken into the account, in the selection of the best article, for any particular case. As it is seldom the fact that individual medicines possess only one single property, the different combinations of powers, which are to be found in the several deobstruents, are likewise to be carefully considered, in reference to every case of disease, in which they are to be employed.

These last remarks have more particular reference to the application of deobstruents to the treatment of acute Rheumatism; but they will likewise apply to the other acute, sub-acute, and chronic Phlogotica, with the proper allowance for the modification of the laws of their progress and duration, occasioned by the specific nature of the inflammation, and the peculiarities in the structure and functions of the parts in which they are seated.

HAVING now made all the preliminary observations that appear to be absolutely necessary to a full understanding of the main subject, upon which I am about to enter, I proceed therefore to treat of the

SANGUINARIA-CANADENSIS. *Lin.*
Sanguinaria-vernalis. Salisb.
Sanguinaria major et minor flore simplici et pleno. Dill.
Papaver corniculatum, seu Chelidonium humile flore albo stellato. Pluk.
Chelidonium-Americanum flore albo. Bross.
Chelidonium-maximum Canadense acaulon. Cornut.
Ranunculus-Virginiensis albus. Park.
Belharnosia. Sarrac. Tourneft.?

Blood-root. Blood-wort. Red-root.
Puccoon. Indian-paint. Indian-Turmeric.

Sexual, or artificial Class. Polyandria.
——— — ——— Order. Monogynia.

Natural Order. Papaveraceæ. Juss.
——— ——— Rhœadeæ. Lin.

Habitat. Canada. United States.
Florida. New Spain.

It is to be remarked, that the trivial name imposed by Salisbury is much preferable to that employed by Linnæus, since the epithet *vernalis* is perfectly applicable, while that of *Canadensis* is quite inappropriate, as the plant is not only found throughout the United States, but even in Florida and New Spain; but the appellation of Linnæus is in more general use, and perhaps cannot now be changed.

The root of Sanguinaria-Canadensis is perennial, horizontal, oblong, fleshy, tuberous, abrupt or premorse, two or three inches long, and from a quarter of an inch to an inch in diameter, with numerous radicles. Its premorse or abrupt form is occasioned by its making offsets from its sides, which separate, as the old root decays. Its colour externally is reddish-brown, but internally it is paler. It is succulent, and when cut or broken, it emits a bright orange-coloured, and very bitter juice, from numerous points of the transverse surface. The bud which terminates the root is composed of successive scales or sheaths, the last of which acquires considerable size, as the plant springs up. By dissect-

ing this bud in the summer or autumn, the embryo leaf and flower of the succeeding spring may be discovered; and with a common magnifier, even the stamens may be counted. This plant is destitute of a caulis, but a single petiole, and scape or peduncle generally proceed from each bud of the tuber, both being enveloped at base with the sheaths above mentioned, which are glaucous, and somewhat succulent. The petiole, as just stated, is radical and solitary, from two to four inches long, and channelled. The leaf is reniform-cordate, with five, or seven large rounded lobes, separated by obtuse sinuses. The leaf is very glabrous, the under side strongly reticulated with veins, paler than the upper, and at length becoming glaucous. After the fall of the flowers, the leaves continue to grow, so that by midsummer, they are commonly of so large a size, as to appear like a different plant. The scape or peduncle is smooth, naked, round, rising in front of the petiole, and infolded by the young leaf. It is from two to six inches long, and flowered. The calyx is a disepalous perianth, the sepals are ovate, concave obtuse, shorter than the corol, and caducous. The corol is polypetalous, the petals being generally eight in number, but varying from this to fourteen. They are white, spreading, oblong, concave, obtuse, the alternate and external ones wider and longer, giving the flower a square appearance. The stamens are numerous, about twenty-four, the filaments simple, shorter than the corol, anthers oblong, and yellow. The germ is oblong and compressed, there is no style, the stigma is thickish, and grooved or slightly furrowed, so as to be somewhat two-lobed, (or indeed to be considered as two, by some botanists,) of the height of the stamens, and persistent. The capsule is superior, oblong-lanceolate, or ventricose and tapering at both ends, with the apex attenuated. It is two-valved and one-celled, and when the seeds are ripe, it bursts and disappears suddenly. The seeds are very numerous, roundish, compressed, of a dark shining red colour, half surrounded with a peculiar white vermiform appendage, which projects at the lower end. Elliott says the receptacles (*placentæ? De-Candolle*) are two, filiform, and marginal.

The essential generic character given by De-Candolle, which is probably as good as that of any other author, is as follows; viz. "Petals from eight to twelve; stamens twenty-four; stigmas two; capsule oblong, bivalve, ventricose, acute at both extremities, valves deciduous; placentas two, persistent."

Several of the writers on American botany pretend to give an essential specific character of Sanguinaria-Canadensis; but in this, they manifest their ignorance of some of the fundamental principles of Linnæus. In the words of Sir James Edward

Smith, which are a summary from Linnæus himself, "a specific character should comprehend such characters only, as are requisite or sufficient to distinguish a plant from every other species of the same genus." "Such, therefore, is not a *description*, but a *difference;* and where only one species exists, a *differentia specifica* is an absurdity." "If it attempts to contrast the plant, with the species of any other genus, it is fallacious and erroneous." But when there is only one species of a genus, as is the fact with Sanguinaria, the generic character distinguishes this species from every other plant, so that a specific character, in such a case, would be as needless as it would be absurd.

By various writers, Sanguinaria is said to grow in "*dry rich soils*," in "*fertile soils*," in "*fertile woods*," in "*dry woods*," in "*edges of rich woods*," in "*woods and thickets*," in "*rich woodlands, meadows, etc.*" and in "*a rich loose soil on the declivities of hills,*"*(!)* "*and the exposed borders of shady woods.*"*(!)* In the vicinity of Boston, it is said to flower in April; in the vicinity of New York, from April to May; in Pennsylvania, from the last of March to May; and in South-Carolina and Georgia, from February to March. In Pennsylvania, it matures its fruit about the middle of June.

Sanguinaria-Canadensis is undoubtedly among the most valuable acquisitions which have been made, in modern times, to the Materia-medica, not merely on account of its activity, but from the diversified, and highly useful purposes to which it may be applied in the treatment of a considerable variety of diseases, which are not only of frequent occurrence, but are also difficult of management, such, for example, as chronic functional disorders of the digestive organs, and the atonic acute, and sub-acute Phlogotica. Although it has been considerably known to the public, for more than thirty years, yet, either for want of a just analogy to guide in the investigation of its various properties, or from the assumption of a false analogy, it is believed that but little progress has been made by the profession at large, in the precise knowledge of its true powers. In fact, its employment has often been regulated by such hypothetical and chimerical notions, that it is still considered, perhaps by a great majority of the medical faculty, as an article whose medicinal virtues and true application are unsettled, and therefore, it is still employed by most of those who use it, in rather an empirical manner, and merely to answer some insulated individual purpose, without much consideration of the general influence, which, independent of its mere operative effects, it exerts on disease. Since, however, the properties and application of Veratrum-viride and album, and of Colchicum-autumnale, to which, as a medicine, it is

closely allied, have been so successfully investigated, it is time that physicians should employ Sanguinaria upon more correct principles, and to better purpose. For many years past, it has been a subject of close attention, not only with myself, but with several of my medical associates and friends, and we flatter ourselves, not only that we understand its powers more thoroughly, but that we manage it with more success than the great body of our professional brethren.

The root is the only part of Sanguinaria at present employed in medicine. It is bitter and acrid to the taste, leaving a durable sense of acrimony in the fauces. By drying, it is said* to lose seventy per centum of its weight. The decoction of the recent root, and the infusion in cold water, are said to give the same results, with all reagents that have been applied, except that the latter affords a precipitate with the solution of the Silicate of Potassa. Water distilled from the recent root has a slight empyreumatic odour, and a nauseous taste. The alcoholic tincture of the recent root becomes milky by the addition of cold water. When the ætherial tincture of the dry root is evaporated, it leaves "a resinous matter, of a brown-red colour, slightly adhesive, and of a very acrid taste." Pure dilute Acetic acid, digested on the root, acquires a bright red colour, and has an acrid taste, like that of the root itself. When evaporated to dryness, it "leaves a red-coloured mass, slightly adhesive, and of a very acrid taste," which is perfectly soluble in water.† From a great number of trials, I very well know that Water, Wine, diluted Alcohol, and Vinegar, are adequate menstrua of the active principle of Sanguinaria.

Since the commencement of my observations upon Sanguinaria, I have been so much engaged in the practice of medicine, and other pursuits immediately and inseparably connected with it, and have been so situated in other respects, as to have neither leisure nor opportunity for experimental chymistry,—not even sufficient for an accurate analysis of any medicinal substance. Indeed, though chymical studies have always been a favourite recreation, yet I have never, at any period of my life, been a practical *analyst* in any department, and consequently am very ill qualified for any investigations in the difficult branch of vegetable chymistry. Fortunately, however, there have been various attempts at an analysis of the root of Sanguinaria; and if they have not been as successful, and as useful, as might have been

* By Mr. Augustus A. Hayes, in a communication hereafter to be quoted.

† Vide a paper by Dr. J. F. Dana, hereafter to be quoted, for the above facts.

expected, such a fact will only show the difficulty of the subject, and enhance the value of such observations as have ultimately proved to be correct.

The first attempt at an analysis of this article, of which I have any knowledge, was made by Dr. William Downey, of Maryland, and published in Philadelphia, in 1803, in an inaugural dissertation for the degree of M. D., entitled "*An Investigation of the Properties of Sanguinaria-Canadensis, or Puccoon.*" From his experiments, Dr. Downey concluded that the proximate principles of the root of this plant are *a resin; a gum; and an extractive or saponaceous matter.* The *gum* was considered as the greatest in quantity, and likewise as the principle upon which the medicinal powers of the article chiefly depend, though the *extractive matter* was supposed to contribute something to its virtues.

Dr. Jacob Bigelow, of Boston, next attempted an analysis of the root of Sanguinaria. The result of his experiments is to be found in his "*American Medical Botany*," published in Boston, in 1817. He infers that this root contains, 1st. *a peculiar resin;* 2d. *a bitter principle;* 3d. *an acrid principle;* 4th. *fœcula;* and 5th. *fibrous or woody matter.* Dr. Bigelow does not pretend to decide upon which of these principles its medicinal activity depends.

After Dr. Bigelow, Dr. Fitzgerald Bird, of Georgia, made the next analytical essay upon this article. The result of his experiments may be found in "*An Inaugural Dissertation on the Sanguinaria-Canadensis of Linnæus,*" published in New York, in 1822. This gentleman infers that the root of Sanguinaria contains, "1st. *Cinchonine!!* 2d. *extractive matter;* 3d. *a gummy material;* 4th. *a resin;* and 5th. *Gallic-acid in a state of combination.*"

More recently still, Dr. James Freeman Dana has attempted an analysis, of the same character as the foregoing, which may be found in the "*Annals of the Lyceum of Natural History of New York,*" published in New York in 1827. His results are,

"1st. Matters soluble in cold water, (gum, extractive and salts,)	grs. 26.
2d. Matters soluble in dilute alcohol, (resino-extractive,)	2. 1.
3d. Matters soluble in boiling water, (starch, etc.)	75.
4th. Insoluble residue, ...	100.
	203. 1.

or,

Vegetable matter, ...	grs. 195.
Saline and earthy matter, . . .	5.
	200. "

With respect to this analysis, Mr. Augustus A. Hayes, of Windsor, Vermont, a gentleman connected with Dr. Dana, in all his experiments upon Sanguinaria, writes to me, that it " is not entitled to any confidence whatever, if we except perhaps the relative qualities of vegetable and foreign ingredients." He adds, " indeed, I should reject the whole, as I find, by my notes, that this proportion varied in different specimens." Even Dr. Dana himself observes that " the analysis of vegetable substances, made in the manner above mentioned, can be of very limited utility, except perhaps for the purposes of pharmacy." " The substances which it has presented us, may perhaps with propriety be considered as products of the processes," (and) " formed by the reaction of the vegetable principles upon each other."

This sort of reduction of vegetables into matters soluble in Alcohol, and insoluble in water, and thence called *resins*, though having no resemblance to the resins proper, as of the Pines, for example; into matters soluble in water, and insoluble in Alcohol, and thence called *gums*, though having no resemblance to the gums proper, as of the *Acacia-vera*, *Astragalus-gummifer*, and *Cerasus-hortensis;* and into matters soluble both in Alcohol and Water, and thence called *extractive*, etc. can hardly be considered, at the present day, as deserving the name of analysis. If the products thus obtained, were simple proximate principles, and much more, if they were the same, from whatever vegetable extracted, then indeed it would justify the method, though still not the denominations. But the products obtained in this way, are unquestionably compounds of several distinct proximate principles, and besides, when obtained from different plants, they are found to differ as much as the plants themselves. Now, when this is added to the fact that no two experiments ever come to the same result, by the processes in question, our confidence in such analyses must be absolutely reduced to nothing.

But a better method has at last been adopted, and partially applied to Sanguinaria. Dr. Dana, in the work last quoted, gives an account of an imperfect analysis, made by himself, and Mr. Augustus A. Hayes, from which there appears to have been complete success in the separation of the medicinally active principle of this article, though the other ingredients that are associated with it, do not seem to have been determined.

This principle is a salifiable basis, having alkaline properties, and it is called by the very obvious and appropriate name *Sanguinarine* in English, and *Sanguinarina* in Latin. Dr. Dana gives two formulæ for obtaining this alkali; but, as I am informed by Mr. Hayes, that only a very minute quantity can be obtained by the first, and that a part of the second is omitted, I shall only detail a single formula, very obligingly furnished by this latter gentleman.

"Treat the bruised root with about three times its bulk of cold rain water previously acidified by one eightieth of its weight of strong Sulphuric-acid." "Allow the mixture to remain three or four days in a cool room; then decant and filter the fluid, and repeat the process, using a more dilute acid." "The filtered fluid contains an acid Sulphate of the alkali in solution with other proximate vegetable principles." "Render the clear fluid slightly alkaline by adding a solution of pure Ammonia; allow the bulky precipitate to subside; decant the supernatent fluid, and wash the precipitate placed on a filter, with water rendered slightly alkaline by Ammonia, till it passes colourless." "A small quantity of cold rain water will then remove the last portions of the Ammonia, and the filter, with its contents, may then be dried as soon as possible, taking care that the temperature does not exceed 212° F." "When dry, digest it in Alcohol, at the common temperature of the atmosphere, filter the fluid, and wash with Alcohol as long as it dissolves any thing; introduce the fluid into a retort, and distill off three fourths of its bulk; pour the remainder into about eight times its bulk of cold rain water; collect and wash the precipitate;—it is Sanguinarine." As thus obtained, it is "a white pearly substance," but if "when dry, it is dissolved in warm Alcohol, placed in a tall glass, and exposed to the atmosphere, small globular grains appear, and fall to the bottom." "When examined by a lens, they appear to be composed of white brilliant prisms, radiating from the centre, and they present with acids phenomena peculiar to this alkali." They also have an acrid taste, render brown the yellow of Turmeric, and change the colour extracted from purple cabbage to a green. Though Sanguinarine is white and colourless when first obtained, it "becomes of a yellowish white, or nearly buff-coloured, when exposed for a long time to the air;—a change which" (Dr. Dana thinks) "is probably due to the action of Carbonic-acid." "Sanguinarine is very sparingly soluble in water, but it is soluble in Æther, and very soluble in Alcohol." "It affords a precipitate with tincture of galls, which is insoluble in Ammonia, but soluble in Alcohol." The taste of Sanguinarine "is extremely acrid; but it requires a long time

to develope its taste, in consequence of its little solubility." "Its impression gradually extends over the mouth and fauces, and down the œsophagus," (and, at last, it) "becomes painful," (and) "sickness and debility ensue."

"Sanguinarine combines with acids, and forms salts." "All the salts are coloured, and present some shade of red, crimson, or scarlet, and the colour is of great intensity and beauty." "The change of colour which takes place, when the white alkali is combined with a white and colourless acid, is a peculiarly striking effect." "The white alkali, when exposed to the vapour of acids, instantly changes to red."

Dr. Dana mentions that the Hydro-Chlorate, the Sulphate, the Nitrate, the Phosphate, the Acetate, and the Tartrate, "have been made the subjects of experiment." "They all have more or less of an acrid taste." "The Hydro-Chlorate, and the Acetate, are peculiarly pungent." "These salts are soluble in water, and in Alcohol, and they form red-coloured solutions of great beauty." Mr. Hayes informs me, that in addition to the salts enumerated by Dr. Dana, "the Carbonate, Oxalate, and Gallate, have been formed by double decomposition." "The Carbonate is slightly soluble in water, and of a fine scarlet colour." "The Oxalate is very soluble." "The Gallate is nearly insoluble in water, and Ammonia, but is soluble in Alcohol." According to Mr. Hayes, the order of their solubilities is as follows, beginning with the most soluble, viz. Acetate, Tartrate, Oxalate, Hydro-Chlorate, Sulphate, Nitrate, Carbonate, and Gallate. Mr. Hayes thinks, that "the Tartrate has the most acrid taste." This gentleman informs me that none of them have any odour; "but the fine powder causes a painful irritation, when incautiously snuffed or breathed." "They all afford precipitates with infusion of Galls, but none with the Tartrate of Antimony and Potassa." "The Hydro-Chlorate can be obtained in a chrytalized mass, by slowly cooling a hot concentrated solution." Mr. Hayes adds, "I have not yet examined these chrystals, and can only say that they are unaltered by atmospheric exposure." Dr. Dana states, that "when Ammonia, Potassa, Lime or Magnesia, is added to the solutions of the combinations of Sanguinarine with acids, the vegeto-alkaline matter is separated, or its salts are decomposed, and the Sanguinarine is obtained in an unaltered state, if it has been acted on by a dilute acid; but if it has been combined with a concentrated acid, Ammonia and the other alkalies will separate it in an altered state." "Thus, if the vegeto-alkali is added to strong Hydro-Chloric-acid, or strong Nitric-acid, a red-coloured compound is procured, from which Ammonia separates a dark purple precipitate." "This precipitate is soluble in Alco-

hol, and forms a reddish coloured solution, and appears to be a compound of the alkali and acid, in proportions different from those existing in the soluble compounds." "The colouring matter then, of the root of Sanguinaria-Canadensis, is a compound of the Sanguinarine and an acid, or a salt; but it is not known with certainty, what acid exists in it, whether it is a peculiar acid, or one which is already well known." Mr. Hayes says, "no attempts have yet been made to determine the ultimate elements of Sanguinarine, nor can we learn that any experiments on the medicinal properties of the salts have been instituted." Dr. Dana finishes his paper on this article, by the following conclusions.

"1st. The Sanguinaria-Canadensis contains a peculiar vegeto-alkali, or salifiable basis."

"2d. This vegeto-alkali possesses the general properties of similar bodies; but is distinguished from all others, by forming *coloured salts* with acids; and,"

"3d. That the colouring matter of the Blood-root is a vegetable salt."*

Ever since that improvement of vegetable analysis, by which certain salifiable bases have been detected in so many plants, and ascertained to be the principles upon which their medicinal activity depends, it has been customary to specify all those articles, which render the common pharmaceutic preparations of vegetable medicines turbid, or produce precipitates in them, and to consider such as more or less incompatible with them. There *is*, no doubt, such a thing as incompatibility; but it is believed that there is yet much fallacy upon the subject. It is well known that there are two kinds of incompatibility, viz. *medicinal* and *chymical.* Medicinal incompatibility is not connected with any chymical changes, but results exclusively from the opposing powers of any two remedial articles. In regard to chymical incompatibility, it must be observed, that crude vegetable substances, as well as infusions, decoctions and tinctures, almost always contain several distinct proximate principles, though their remedial effects usually depend upon one, or at most two of these, the rest being completely inert. Whenever, therefore, a decomposition, or a new combination takes place, or mixture, between the active principles of two ingredients in one preparation, or those of two preparations which are to be administered together, and these new compounds have different powers, such

* It is to be hoped that Mr. Hayes will soon favour the public with a further communication upon this interesting subject.

chymical incompatibility necessarily interferes with the medicinal effects of the substances or compounds employed, unless, as in *Mistura Ferri composita*, the product of this decomposition is desired by the prescriber. When, however, the chymical actions are confined to the medicinally inert principles of the articles or compounds, which are mingled either before or during their administration, the remedial powers must remain unchanged; and likewise, when the medicinal powers of those proximate principles, upon which remedial activity depends, are not changed by a variation in their mode of combination. For example, the liquor of the Arsenite of Potassa has been considered to be chymically incompatible with the powder, the infusion, the decoction, and the tincture of Cinchona-cordifolia; but as neither the Arsenous-acid nor the Quinine, the active principles of these two remedies, appear to undergo any change, and as it seems to be a law with respect both to Arsenous-acid, and most of the vegetable salifiable bases, that their medicinal powers should suffer no material change, either in kind or degree, by any difference of combination which does not actually involve their decomposition, the opinion in question is probably destitute of any foundation. There can be no doubt that the vital powers of the stomach often prevent decompositions, and other chymical changes, among substances mixed in its cavity, which would unquestionably take place, were the preparations mingled before they are swallowed; but the laws of vitality, in relation to this point, have never been satisfactorily investigated. As respects those decompositions that are produced by the living stomach, contrary to the ordinary laws of Chymistry, there is the best reason for concluding, that nearly all, if not absolutely the whole of the remedial effects that ever take place, are produced before this change, so that the laws which regulate these changes, are of no further consequence, than as they tend to throw light upon the function of digestion. These remarks will explain the views which I entertain of chymical incompatibility, and I think they show how it happens, that every case of chymical action between different medicinal articles, is not attended with a destruction, or total change of remedial power.

Sanguinarine seems to agree with the other vegetable salifiable bases, in retaining all its sensible properties, and doubtless also, all its medicinal powers, with whatever acid it may be combined; or, at least with every one to which its relations have been ascertained. No one of these acids, therefore, can be considered as *strictly* incompatible either with Sanguinarine itself, or any now known salt of it, and consequently, not with the ordinary pharmaceutic preparations of the root of Sanguinaria.

Those salts which are the most soluble, are probably the most speedily active; but even perfect insolubility does not necessarily involve inertness, since the Per-Sulphate, the Per-Oxyd, and the Proto-Chlorid of Mercury, are all, not only powerful, but more or less speedy in their medicinal effects. It would seem probable likewise, that those salts which have the strongest taste, will be found the most active, allowance being made, for some little difference in point of speed, in consequence of difference in solubility. Hence, it is likely, that the Tartrate, for example, will be found, on the whole, to be more active than the Acetate, though the latter is a little more soluble. The Gallate and the Carbonate will probably be found to be considerably the least eligible of all the now known salts, because they are much the least soluble, without possessing any stronger taste.

The most common alkalies, viz. Potassa, Soda, Ammonia, Lime, and Magnesia, when in a pure or caustic state, doubtless possess the power of separating Sanguinarine from its combination with acids; and, as in its pure state, it is much less soluble than when united to an acid, these alkalies may perhaps be considered as incompatible to a certain extent, (probably about as much as the Carbonic and Gallic acids) with preparations of Sanguinaria, that is, as diminishing, but not destroying its activity.

Dr. Dana has furnished a catalogue of substances that produce a precipitate in the infusion and decoction of Sanguinaria. These are Chlorid of Gold, Per-Chlorid of Mercury, Proto-Chlorid of Tin, Per-Chlorid of Iron, Super-Acetate of Lead, Nitrate of Silver, Per-Sulphate of Iron, and tincture of Iodine. Silicate of Potassa, as has been already stated, produces a precipitate with the infusion, but not with the decoction. In the present state of our knowledge respecting the salts of Sanguinarine, we see no reason to conclude, that any of these articles, unless it may be the Silicate of Potassa, and the tincture of Iodine, will be likely to destroy, or modify materially the medicinal powers of Sanguinaria, and, consequently, we would not pronounce them chymically incompatible with it. Of the two substances that are excepted, we know not their relations to Sanguinaria, and we cannot, therefore, decide what their operation may be.

As I have already said, the virtues of Sanguinaria are imparted, but in different degrees, to Alcohol, and water, and consequently to diluted Alcohol. The watery preparations are more nauseating, but less bitter and acrid, than the Alcoholic.

The continued internal employment of uncombined Sanguinaria, especially in tincture, in as large doses as can be taken without disquieting the stomach, and repeated at regular and

short intervals, removes torpor of the liver, and occasions regular and increased secretions from that viscus, and also from the digestive organs generally; while at the same time, it produces a universal change of action or condition in the whole secernent and absorbent systems, by which, doubtless, it resolves atonic, acute, sub-acute and chronic inflammations, not only of the thoracic and abdominal viscera, but also arthritic inflammations of the muscles and joints. In connexion with, and doubtless in consequence of these operations, it frequently excites the appetite, promotes digestion, and occasions a gradual and moderate, though, as is supposed, an indirect increase of the force and fulness of the pulse. In addition to these more common effects, it sometimes promotes the excretion of mucus, or muco-purulent matter from the bronchial membrane, and sometimes it restrains these discharges, according to the different circumstances of the case. Sometimes likewise it excites the catamenial secretion, and it has occasionally been known to produce uterine hæmorrhage. In still larger doses, it strongly nauseates, but, independent of this effect, it powerfully abates irritative hardness and frequency of the pulse, irritative heat and dryness of the skin, and usually it occasions a quickly diffused and transient, but at the same time a very peculiar nervous thrill which pervades the whole system, and is often extended to the minutest extremity. When pursued in this way to an improper extent, it sometimes occasions vomiting, but more especially burning at the stomach, faintness, vertigo, diminished vision and general insensibility, coldness, extreme reduction of the force and frequency of the pulse, together with great irregularity of action, and often palpitation of the heart, great prostration of muscular strength, and sometimes (though in all probability rarely) a convulsive rigidity of the limbs. In large or full emetic doses, it speedily excites the action of vomiting, but without the production of much nausea, or any considerable evacuation of fluids from the stomach, or any perceptible, or at least material diminution of the general energies of the system. If pushed to an injudicious extent as an emetic, it occasions great anxiety, and the above detailed symptoms of narcosis. Snuffed into the nose, it excites sneezing, and an increased secretion from the Schneiderian membrane; and applied externally in those eruptions of the skin, which do not depend upon constitutional disease, or to the surface of certain ulcers, it irritates, changes action, promotes absorption, and often effects a cure. From some facts, which have repeatedly fallen under my observation, I am inclined to believe, that if applied externally with great freedom in the form of decoction, Sanguinaria will yet be found to be a useful discutient to certain

inflammatory tumours of a particular character. I have known a Felon that was immersed in a hot decoction, while in its early stages, completely discussed by it. I have likewise known its liberal application to the throat produce a resolution of certain cases of Quinsey. It is believed, that when used either freely or moderately, Sanguinaria usually leaves the stomach and intestines in good condition, and not in an irritable and disordered state.

The power of Sanguinaria to increase the secretion of bile when it is deficient, or even when in its natural state, has been doubted and denied, probably, because under certain methods of management this effect has not been observed; but, it will be obvious to every one, that such negative testimony, in opposition to positive, does not deserve the least weight. In my own hands, and in those of several of my medical friends, this has been one of the most uniform of all its operations. The method of management, which renders this power the most palpable, is the exhibition of as large doses as the stomach will receive without rejection, and the repetition of them at short intervals. It is believed, however, that a greater or less degree of this effect is always produced, whenever this article is employed periodically, and as a mere deobstruent, unless in some case in which the severity or obstinacy of the disease entirely resists the operation of the remedy. In several instances where I have given two or three fluid-drachms of the tincture of Sanguinaria at a dose, and repeated it at intervals of an hour, till ten or twelve such doses have been administered, a profuse secretion of a bright yellow, and extremely bitter bile has taken place, followed by irritability of the stomach, and frequent rejection of bile in an almost pure state.

The power of Sanguinaria, under proper management, to produce a direct resolution of atonic acute, sub-acute, and chronic inflammations either of the viscera, or of the joints and muscles of the extremities, it is believed, has not in general been sufficiently understood and appreciated. Indeed, this operation, like that upon the biliary organs has been doubted and denied; but it is equally certain, and much more prominent and important, at least to superficial observers. I think it in the highest degree probable, if it cannot be considered as actually determined, that both these effects depend upon the same operation upon the secernent and absorbent systems generally, which, in reality, constitutes the essence of a pure and true deobstruent power.

From the circumstance that the appetite and digestion are sometimes improved, and the force and fulness of the pulse occasionally increased under its use, it has been supposed by some,

and I must confess that I once entertained the opinion, that Sanguinaria is capable of exerting a direct tonic power. From long attention, however, to that point, I am now convinced that this notion is unfounded. Most diseases, as is well known, impair the appetite, and when they are of an atonic character, they likewise diminish the force, and often the fulness of the pulse. So long as these effects are connected with prostration, instead of exhaustion, Sanguinaria, by obviating the disease which is the cause of the prostration, may indirectly restore the appetite, and increase the force of the pulse; but when these symptoms are connected with exhaustion instead of prostration, Sanguinaria is much more liable to augment than to diminish them. I consider it certain that Sanguinaria, when given alone, in atonic acute, sub-acute, and chronic diseases, with the freedom necessary to produce its peculiar deobstruent and counteracting effects, has no operation as an excitant, or direct tonic, in that sense of these terms, in which they are applied to Alcohol, the aromatics, Cinchona, etc.; nor can it ever be usefully employed as a direct restorative in a case of pure exhaustion, such, for example, as results from fever. On the other hand, though Sanguinaria is not an excitant, or direct tonic, still it is by no means a direct reducing or refrigerant remedy, nor can it be employed in any pure phlogistic disease, such for example as the entonic Phlogotica, either as a substitute for, or as an auxiliary to, depletion. In the cases in which this, and some analogous articles, have been supposed to answer this purpose, I have the best reasons for believing that irritation was mistaken for inflammation, and the sub-putrid, or synochous type of disease, for phlogistic or entonic diathesis. Such mistakes are by no means uncommon, and have led to similar, and equally erroneous conclusions with respect to Colchicum, Digitalis, and even oil of Pine.*

* Excitation and reduction are, in many cases, mere relative terms. Thus, by way of illustration, the Proto-Chlorid of Mercury is entirely incapable of reducing genuine and pure phlogistic action, without the aid of depletion, evacuations, and refrigerants, yet when given in a very low case of disease, or in the stage of exhaustion, or in great doses in a moderately atonic complaint, it often proves strongly reducing. Sulphate of Zinc is not an antiphlogistic remedy, but its degree of tonic power is so moderate, that in very low cases, it may be relatively a decided atonic. Wine is by no means an antiphlogistic agent, but when given alone, in a low case of Typhus-syncopalis, it is palpably atonic. Great doses of moderate excitants, when employed in very low atonic cases, or in the wrong stages of disease, often extinguish excitability, and produce the worst kind of Paralysis. It should be remarked, however, that an alterative effect may be an exciting effect, or it may be a reducing effect, at the same time that it is alterative; or it may be a pure alterative effect, and neither exciting nor reducing. An alterative effect may be relatively an exciting effect, in a phlogistic disease, or it may be relatively a reducing effect in a low atonic disease.

I am aware that Dr. Bird says, "from the evidence of his analysis, we are warranted in the conclusion that this plant possesses active medicinal properties; and that *these properties are in every respect similar to those which characterize the Cinchona-officinalis;*" and again, that Dr. Bird says, "it may be readily asserted, that *for its active medicinal virtues, as a tonic-stimulant*, it will suffer no injury by comparison with any of the articles of our vegetable materia-medica." Indeed, so much is Dr. Bird possessed with the notion of the tonic powers of Sanguinaria, from the single circumstance that he imagined he had detected Cinchonine in its composition, that he subsequently endeavours to account for all its remedial operations in disease, by that property. But, from a perusal of his dissertation, it will be clear to any man, who is himself at all acquainted with the real effects of the article, that neither Dr. Bird, nor Drs. Wilson and Francis, his two coadjutors, knew any thing at all, either practically or otherwise, of its true properties. Had these been at all understood, by the gentlemen in question, it would have been obvious to them, that the existence of any notable quantity of Cinchonine in Blood-root, is abundantly disproved, by the total diversity of the medicinal effects of Sanguinaria and Cinchona. From prepossessions to that effect, and, as I have already said, from the circumstance that the appetite and digestion are sometimes improved, and the force and fulness of the pulse occasionally increased under its use, I once supposed that Sanguinaria possessed some tonic powers; but careful and multiplied observations long ago convinced me that this opinion is altogether unfounded. I feel confident, that it is in fact no more positively tonic than Polygala-Senega, Scilla-maritima, and Colchicum-autumnale, though it is assuredly incapable of reducing the patient like these articles, because it does not evacuate like them, nor disorder the stomach and bowels as they do. At all events, I can state, in direct opposition to Dr. Bird, that from an experience of sixteen years, during the whole of which I have been constantly in the habit of using it freely and frequently, and from ample testimony respecting its effects, by various practitioners of Connecticut, who have used it for the last half century,—I say, I can state, that Sanguinaria does not appear to have one single property in common with Cinchona, nor is there a single case known, in which the one may be used as a substitute for the other.

Although Sanguinaria either promotes the excretion of mucus, or muco-purulent matter from the bronchial membrane, or restrains it, according to the different circumstances of the case, and although there are strong reasons for concluding that it ex-

erts a specific operation upon the pulmonary system, yet I view it as doubtful whether it can be justly considered as producing any direct expectorant effects, in any manner, distinct from its ordinary deobstruent operation. Expectorants are commonly supposed to be such articles as promote the secretion, or facilitate the excretion of mucus or pus from the bronchial membrane. This definition seems to include at least two distinct sorts of effect, viz. 1st, the acceleration of the resolution of inflammations of this membrane, by the secretion of a mucous or muco-purulent matter; and 2d, the obviation of torpor and atony of the secretory vessels of this texture, when they have become inirritable, and have had their vital energies impaired by the violence or long continuance of some disease, or by temporary spasm, by which a suspended secretion may be restored, or a new one excited. Now in pulmonary affections, which are neither materially entonic on the one hand, nor very low atonic on the other, Sanguinaria, without doubt, not unfrequently produces one or the other of these effects; but I am inclined to think that each, according to the different condition of the bronchial system, may be referred to its peculiar deobstruent action, or, in other words, its action upon the secernents and absorbents generally. Now it would seem, that in order to deserve the denomination and rank of an expectorant, a remedy ought to produce its expectorant effects, by direct operation upon the lungs, through the medium of the stomach only, and not by the intervention of any more general operation upon some other part of the system. Without meaning, in this Essay, to decide on this point, I shall hereafter speak of the expectorant effects of Sanguinaria, which is, at the least, a convenient form of phraseology for the avoidance of circumlocution. It is believed, however, that Sanguinaria much more frequently produces direct resolution of pulmonary complaints, than their removal by the intervention of a mucous or muco-purulent secretion.

There is equal doubt whether Sanguinaria can be considered as exerting any direct emmenagogue powers, distinct from its general deobstruent operation, or its action upon the secernent and absorbent systems; whether it is justly entitled to the appellation of emmenagogue, in distinction from that of deobstruent. Perhaps there may be an equal question whether any article of the whole Materia-Medica is capable of operating exclusively to promote the catamenial discharge, independent of some more general operation upon other parts of the system. I believe there is good reason to conclude, that Sanguinaria is capable of effectually restoring the obstructed secretion in idiopathic Paramenia-obstructionis, or, in other words, in such cases as are con-

nected with no other disease. It is not necessary, in order to justify the application of the term emmenagogue to Sanguinaria, to settle either of the above-mentioned doubtful points. It ought, perhaps, to be added in this place, that Sanguinaria has no power in those cases of obstructed catamenia, which are merely symptomatic of some other disease, unless such disease is itself capable of being relieved by this article. It is seldom the fact, that the remedies which are most useful in these cases, are at all capable of giving relief in the idiopathic forms of this complaint. As an emmenagogue, it is undoubtedly adapted to precisely the same cases, in which the Helleborus-niger has been found the most useful, viz. in plethoric habits, as they are called, where Iron disagrees, at least till after suitable preparation.

By an inattentive, or careless observer, the narcotic operation of Sanguinaria may perhaps be thought not obvious. Its power of abating irritative frequency and hardness of the pulse, and often also irritative heat and dryness of the skin, and this independent of nausea or vomiting, are, in my opinion, to be referred to this property, and especially when its other operations are considered. But there can be no doubt that the peculiar nervous thrill which I have heretofore mentioned, the faintness, vertigo, diminished vision, and general insensibility, the coldness, the extreme reduction of the force and frequency of the pulse, together with the great irregularity of action, and often palpitation of the heart, the great prostration of muscular strength, and the occasional convulsive rigidity of the limbs, are all to be considered as narcotic effects. It is true this latter aggregate of symptoms very seldom takes place, at least under a judicious and prudent use of the article, but it has occurred sufficiently often to prove that such aggregate is to be reckoned among the regular operations of the medicine. In a few individuals who possess some peculiarities of susceptibility, especially when labouring under only moderate disease, the symptoms in question are sometimes occasioned by moderate doses of thirty or forty minims of the tincture of Sanguinaria. I could name several persons of my acquaintance, in which the doses just mentioned, under ordinary circumstances, invariably occasion all these effects. This I do not consider to be idiosyncrasy, as it is not an operation contrary in kind, but only greater in degree, than is ordinarily to be expected from such doses.*

* Mere difference in susceptibility cannot be admitted to constitute idiosyncrasy, since in such a sense there would be as many idiosyncrasies as there are individuals,——nay, as many in addition even to this, as there are varieties in the condition or state of the same individual at different times, and under different circumstances. Besides, an idiosyncrasy is a permanent

The emetic powers of Sanguinaria are universally known and acknowledged, wherever it has been employed in medicine; but the peculiarities in the manner of its operation, and the other effects which it always produces in addition to vomiting, I have never seen well detailed. For the mere purpose of cleansing the stomach of any noxious substances that may have been accidentally swallowed, or of simply removing vitiated or morbid secretions, or for that of breaking up at its outset any variety of simple fever, or even of moderating its violence, or shortening its duration, or, in a word, for any of the common uses for which the simple emetics are the most appropriate, I imagine Sanguinaria will always be found to be inconvenient, uncertain, and often ineffectual. It is doubtless from its injudicious use, and under improper management, and in cases to which it is ill adapted—the whole in consequence of erroneous notions as to its true powers—that such contradictory views respecting its value as an emetic, have been so long entertained. Perhaps, where vomiting, as a mere evacuation, is all that is desired, it ought never to be employed. The true object of its exhibition ought always to be the production of a kind of shock upon the system, the making of a strong impression upon some disease, and the exertion of its peculiar deobstruent operation upon the secernents and absorbents, and more especially upon the biliary, and perhaps the respiratory organs, or, in fewer words, a general change of action and condition, and a counteraction of disease. The evacuation of fluids which it produces is always inconsiderable, the nausea which it excites is but of short duration, and it exerts no refrigerant, nor, as will be hereafter stated, any diaphoretic, diuretic, or purgative powers, so that it must always be ineffectual to abate true phlogistic, or entonic action. At any rate, it will be found, that Sanguinaria, when employed as an emetic, exerts an influence upon certain diseases, which none of the ordinary and simple emetics, in more common use, seem at all capable of producing, although they may be so managed as to vomit in about an equal degree.

These restrictions and limitations, it is believed, involve no

thing in reference to the individual of whom it is predicated; but the mere difference in susceptibility, to which I now refer, varies endlessly, according to the nature, severity, and obstinacy of the disease under which such individual labours. Thus, for example, one of the persons to whom I have referred above, though so easily affected when labouring under a slight complaint, by a small quantity of uncombined or simple Sanguinaria, is nevertheless able to take it with the customary freedom, when affected by a violent and urgent disease, especially if the remedy is accompanied by suitable auxiliaries. Such are not the laws by which genuine idiosyncrasy is regulated.

new principles. It has long been well known that certain excitants, for example, principally affect the circulating system,—others principally affect the brain and nerves,—and others still, the mucous membrane of the alimentary canal. There is surely as much reason for a choice among emetics, in reference to different cases, as of catharties, from similar circumstances. What would be thought of the practitioner who should employ Aloes as a purgative in pure Cauma, or in the entonic Phlogotica, instead of the refrigerant salts; or who should direct Elaterium as a laxative, in a low case of typhus-syncopalis? It is not sufficient that we select our remedies merely because they are capable of producing one single operative effect that we desire; but the manner in which they operate, and the other effects which they will be likely to produce, must all be considered. These considerations afford a sufficient reason why Sanguinaria is so much preferable as an emetic, in certain cases, to other articles in more common use; and they explain likewise why I shall hereafter insist so strenuously on this preference, in certain diseases in which Antimony is more generally employed.

By some, a diuretic power has been ascribed to Sanguinaria, but there are the best reasons to doubt whether such an effect is ever the direct result of its operation. It is true that its continued use, in some cases of Dropsy, sometimes occasions an absorption, and a gradual evacuation of the effused fluids, but these effects commonly take place slowly, and the evacuation seems rather to be caused by the disproportionate quantity of watery matter which is returned into the circulatory vessels, than by any immediate and direct diuretic operation of the medicine. It is possible that in some few instances, the absorption and evacuation in question, may take place more suddenly, but still the manner in which it is accomplished will remain the same. The infrequency of such an occurrence, were there no other reason, must alone be sufficient to exclude Sanguinaria from the catalogue of diuretics.

By some a diaphoretic power has been ascribed to Sanguinaria, but as far as I can rely on my own observations, this opinion is entirely destitute of foundation. I have now been for many years conversant with this article, and, I believe, have administered it in almost all forms and doses, and repeated it both at long and at short intervals, and unless it was accompanied with some other medicine, or process, to which such an effect might with much more propriety be ascribed, I have never seen this operation take place under its use. In different conditions of the system, however, perspiration is brought about by such a diversity of means, that it would be strange if it did

not sometimes result from Sanguinaria; though I think we may safely conclude, that this is not one of its direct, and regular effects.

It is remarkable that though Sanguinaria does not seem to be capable of purging, or even of proving directly laxative, yet when taken in large quantities by itself, and for a considerable length of time, it will, for the most part, obviate habitual costiveness, and even when conjoined with Opium, it will, not unfrequently, prevent any constipating effect from that article. When this quality first fell under my observation, it was manifest in every instance in which I then exhibited the medicine; and I flattered myself that it might be invariably expected from its use; but being subsequently disappointed in this respect, I was led to a more thorough investigation of the subject. The truth is, that during the season when my observations were first made, an unusually free secretion of bile invariably followed a longer or shorter continuance of the Sanguinaria, and that whether it was employed with, or without Opium, the fæces became of a bright yellow colour, and a free state of the bowels took place. Since that time, I have invariably found that a similar change in the state of the biliary secretion always accompanies its eccoprotic effect. When only moderate quantities of Sanguinaria are employed, this operation does not usually occur to any very considerable extent, but whenever I have had occasion to exhibit it with great freedom, it has always taken place sooner or later. It ought perhaps to be added, that in cases which have required a long continued use of pretty large quantities of Opium, I have almost invariably noticed a regularly increased secretion of bile from that article alone.

From what has been stated, I trust it will appear that the deobstruent and discutient powers of Sanguinaria constitute its most important property, and that next to this, it is most valuable as an emetic. Its narcotic powers, which are of the acrid sort, are manifested principally in irritative cases, and doubtless are often useful, but still are of inferior consequence to its deobstruent and emetic operations. Its expectorant and cholagogue virtues, if these are indeed distinct from its deobstruent, are sometimes the principal object of its employment; and I do not doubt that in appropriate cases, it may be equally serviceable as an emmenagogue, but of this I have no decisive personal experience. Its errhine and escharotic properties must be acknowledged to be of inconsiderable importance in comparison with some of its other powers, but yet are not to be entirely neglected. The circumstance that it usually leaves the stomach and intestines in a good condition, and not in the irritable and

debilitated state, which is so liable to result from the use of Colchicum, Scilla, etc., give it a decided preference not only over both these articles, but also over several others, which possess the same general assemblage of powers.

The only officinal preparations of Sanguinaria which would seem to be either necessary or convenient, are

1st. PULVIS SANGUINARIÆ CANAD NSIS.

2d. PILULÆ SANGUINARIÆ CANADENSIS.

R. Radicis Sanguinariæ in pulverem tritæ scrupulum unum;
Confectionis Rosæ quantum sufficit;
Subige in massam et divide in pilulas decem.

3d. INFUSUM SANGUINARIÆ CANADENSIS.

R. Radicis Sanguinariæ contusæ unciam unam;
Aquæ Culientis octantem dimidium;
Macera vel digere per horas quatuor, in vase leviter clauso, nonnunquam agitans, et cola.

4th. DECOCTUM SANGUINARIÆ CANADENSIS.

R. Radicis Sanguinariæ contusæ unciam unam;
Aquæ Culientis octantem dimidium;
Decoque leni igne, per horæ quadrantem in vase leviter clauso, et cola.

5th. TINCTURA SANGUINARIA CANADENSIS.

R. Radicis Sanguinariæ contusæ uncias duas;
Alcoholis diluti octantem unum;
Digere per dies decem, nonnunquam agitans et per chartam cola.

6th. VINUM SANGUINARIÆ CANADENSIS.

R. Radicis Sanguinariæ contusæ uncias duas;
Alcoholis officinalis fluiduncias duas;
Vini albi fluiduncias quatuordecem;
Macera per dies decem, nonnunquam agitans, et per chartam cola.

7th. ACETUM SANGUINARIÆ CANADENSIS.

R. Radicis Sanguinariæ contusæ uncias duas;
Aceti purificati fluiduncias quatuordecem;
Alcoholis officinalis fluiduncias duas;
Macera in Aceto, per dies decem, dein liquorem exprime, cui adde Alcohol, et cum fæces subsederint purum effunde liquorem.

8th. SYRUPUS ACETI SANGUINARIÆ CANADENSIS.

R. Aceti Sanguinariæ octantem unum;
Sacchari albi contriti libras duas;
Solvatur leni calore Saccharum, ut fiat Syrupus.

9th. Unguentum Sanguinariæ Canadensis.

R. Radicis Sanguinariæ in pulverem subtilissimum triti uncias duas;
Unguenti simplicis uncias octo;
Citri Medicæ olei essentialis mima viginti;
Unguento simplici liquefacto adjice pulverem et oleum, et misce, assidue movens, donec refrixerint.

I have never made sufficient comparative observations respecting the infusion and decoction, to determine which deserves the preference. Between the tincture and the wine there is no material difference. I have sometimes supposed that the wine was the most active when recently prepared, but that the tincture kept the best. The addition of a little Alcohol to the wine, as above directed, causes it to keep about as well as the tincture. With those who have objections to tinctures and wines, the acetum is commonly preferred; and where the stomach is not weak and irritable it answers well; but if it is in this condition, this form infallibly does mischief. The syrup is especially adapted to children, but it likewise answers well in all other cases where the saccharine demulcents are indicated.

As a deobstruent, expectorant, emmenagogue and cholagogue, and as an acrid-narcotic, Sanguinaria may be given in powder or pill, in uniform doses, at regular and short intervals, in the quantity of about five grains at once; or the infusion, decoction, wine, tincture, or acetum, commencing with twenty or thirty minims, at periods of two, three, or four hours, and increasing the quantity as the stomach will bear, till it amounts to sixty or a hundred minims, and sometimes much more. It is to be remarked, that though a commencing dose of twenty or thirty minims may even produce nausea, yet the quantity may be regularly increased, and that even with considerable rapidity, till the stomach will bear without disquiet between one and two fluidrachms, and sometimes even much more. I have repeatedly had occasion to administer as much as three fluidrachms every two hours for several days, and I have even been informed of its being carried by a single individual to the enormous dose of two or three fluidounces. Although particular persons, under peculiar circumstances, may occasionally take inordinate doses of active articles with impunity, yet this cannot be considered as affording any analogy for their regular use, and it is, in itself, no more justifiable, than the exhibition of Tartrate of Antimony or Proto-Chlorid of Mercury in drachm doses, because there are instances on record of these quantities having been given, without any deleterious consequences.

It is well known that some medicines cannot be divided mi-

nutely enough by mere pulverization, but when given in substance, are ever liable to irritate, or to disagree in some way with the stomach, and that, even in a quantity so small, as to be insufficient for the production of their medicinal effects. In some cases, even simple solution of their active principles does not seem to be sufficient, and plentiful dilution becomes necessary. These facts are well known, and universally recognized with respect to *Phosphoneselementarius*, *Cantharis-vesicatoria*, *Acidum-Arsenosum*, and *Hydrargyri-Per-Chloridum*. The smallest particles which can be produced by mere mechanical means, are liable, when in contact with the sensible coats of the stomach, to produce local disturbance of the vascular, muscular, and membranous textures, and thus to interfere with their general medicinal effect upon the system. Both solution and dilution in conjunction, commonly obviate these inconveniences. This will doubtless apply in a limited degree to Scilla, Sanguinaria, Veratrum and Colchicum. The best effects of these articles as deobstruents, often depend upon the largeness of the quantity that can be taken without nausea or offence to the stomach. Hence I have uniformly been more successful with the liquid, than with the solid preparations of Sanguinaria. When I have employed the tincture, which has been my most general form, this may have been in part owing to the carminative effects of the Alcohol, with which it was prepared. Attention to these circumstances, I am inclined to think, has been one cause of much greater success in my management of this article, than has happened in the practice of some of my professional neighbours.

When there is considerable irritability of the stomach, it is sometimes the fact, that an inefficient dose of an appropriate medicine—a dose not large enough to make any considerable impression, or to change the condition of that viscus, will offend, or even be rejected, when an efficient dose of the same article—a dose large enough to make a strong impression, and change the condition of the stomach, will at once counteract or overcome this irritability, and set well. I have often known half-grain doses of Cephaelis-Ipecacuanha nauseate, and occasion retching, when thirty grains would not be rejected; and many years ago, every practitioner would occasionally see repeated full emetic doses of Tartrate of Antimony effectually compose a previously irritable stomach, without the least vomiting. In like manner, in some cases of low atonic fever, when a teaspoonful of decoction of Cinchona and a teaspoonful of Brandy will excite immediately emesis, a tablespoonful of Cinchona in substance, with Brandy enough to make it liquid, will not even

nauseate, but will effectually overcome that morbid irritability which prevented the smaller dose of the weaker preparation from being retained. Something analogous to this takes place not unfrequently with Sanguinaria. In many cases, where twenty or thirty minims of the tincture disturb the stomach, I have repeatedly given from two to three teaspoonfuls with a view to an emetic operation, and found it set perfectly well, and at the same time so change the state of the stomach that the patient could subsequently take doses of one or two teaspoonfuls without the least inconvenience. As a general rule, I have found that full deobstruent doses usually set as well as small ones of twenty or thirty minims. Unless this happens to be the fact, not much is to be expected from Sanguinaria in a severe case of disease.

When administered as a deobstruent, expectorant, emmenagogue and cholagogue, and as an acrid-narcotic, Sanguinaria usually, though it is true not invariably, operates much better in conjunction with Opium, which not only increases its general efficacy, but materially lessens its nauseating and other unpleasant tendencies. For a general rule, in severe cases of disease, and in adult patients, a mixture of one part tincture of Opium, with three parts tincture or Wine of Sanguinaria, seems to constitute a peculiarly happy proportion. As, on the one hand, Opium diminishes the unpleasant operation of Sanguinaria, so on the other, Sanguinaria very prominently lessens the soporific effect of Opium, and prevents that confusion of the head which sometimes results from its use. In short, the operation of this mixture is not a compound of the unmodified effects of both articles, but almost a new specific impression—a modified effect considerably different from either. For children, and in moderate cases of disease in adults, a compound of equal parts of Camphorated tincture of Opium and tincture of Sanguinaria will often answer the same purpose.*

When the symptoms and circumstances of disease seem to require it, Sanguinaria may not only be combined with Opium, but also with Conium, Datura, Digitalis, or Hydro-Cyanic-acid. Sometimes Cinchona, simple-bitters, Zinc, Iron, Copper, or Sil-

* Tincture is likewise the best form for use; and contrary to Paris's hypothesis, similar combination with Opium obviates all the most unpleasant effects of Digitalis and Hydro-Cyanic-acid, without any diminution of their most valuable medicinal powers. When in this form, unless administered in inordinate quantities, their effects are not liable to secret accumulation in the system, and the consequent production of dangerous prostration or exhaustion. The same preparation and qualification is often useful, and even sometimes necessary, in order to obtain the best effects of Conium, Datura, and more especially Colchicum and Veratrum.

ver, are indicated at the same time with Sanguinaria, and there can certainly be no objection to their conjoined use. By a judicious combination of deobstruents, narcotics, and tonics, much more may frequently be accomplished than by their separate or successive employment.

As is the fact with Mercury, Digitalis, Opium, etc., Sanguinaria is an article whose useful effects in any particular disease depend almost entirely on skill and dexterity of management. The dose, the frequency of repetition, its modification by combination with suitable adjuvants, the previous preparation of the patient, etc., all have a controlling influence on the ultimate success of this, in common with every other efficient remedy. Like most important articles of the Materia-medica, it is by no means inert, but only a very precarious medicine in unskilful hands.

As an emetic, the powder of Sanguinaria may be administered in doses from ten grains to a drachm, according to the state of the stomach, the nature of the disease, &c., or better the infusion or decoction, which may be given in doses from two to four fluidrachms, to be repeated at short intervals, till sufficient vomiting is produced. When, however, there is considerable weakness, or exhaustion of the vital powers, the tincture is to be preferred to either of these preparations, as it is equally effectual, and much less liable to operate harshly or excessively. Besides, without the aid of the Alcohol, such cases often require inordinate doses of almost any emetic to produce the desired operation. Two or three fluidrachms of the tincture, at intervals of about ten minutes, as a general rule, soon produce vomiting. In some cases, however, a much greater quantity is necessary.

When, after repeated doses for the purpose of an emetic, Sanguinaria occasions severe nausea, without vomiting, or ineffectual retchings, which is believed very rarely to happen, when the case is a proper one for the employment of the article, it is to be particularly remarked, that Cephaelis-Ipecacuanha should immediately be plentifully administered, till the desired effect is produced. When it has been taken freely, but without either vomiting or nausea, its operation should be assisted either by sulphate of Zinc, Per-Sulphate of Copper, or what is much better than either, Per-Sulphate of Mercury. Even in those cases, in which some of these articles are necessary to assist its emetic operation, it will be found that from its general deobstruent, alterative, or counteracting effects, much more service will be rendered, than would have taken place without its use, even from the same degree of vomiting.

For the unpleasant effects of Sanguinaria, such as nausea, burning at the stomach, faintness, vertigo, diminished vision, and general insensibility, coldness, reduction of the force and frequency of the pulse, great irregularity of action, and often palpitation of the heart, extreme prostration of muscular strength, and convulsive rigidity of the limbs, Opium is decidedly the most effectual remedy. Whenever these symptoms, however, are urgent, Ammonia, Æther, small quantities of some of the essential oils, as of Mentha-piperita, for example, and even Alcohol, will be useful auxiliaries to Opium.

When Sanguinaria has been long kept, its power of vomiting speedily, and in small quantity, is usually very much diminished, though its deobstruent and narcotic qualities seem to be more permanent. Sometimes, however, I have known it to become nearly inert in every respect, after a few months' keeping, while, at others, it will preserve its properties in considerable perfection even for several years. As with Veratrum and Colchicum, there is always more or less uncertainty as to the activity of old specimens, so that a new supply should be obtained every season. The recent wine or tincture prepared from the fresh dried root, it is believed, will usually be found to produce the most decided operative effects. The root should always be collected in the autumn, after the decay of the leaves, in preference to the spring, as, at this latter period, it can rarely be obtained before it has sprouted, after which it is much less active, though by no means inert.

Perhaps it ought not to be omitted, that the leaves of the Sanguinaria are supposed to possess deleterious qualities, of some sort or other, though, of what precise nature, is not known; and that the full grown, but unripe seeds, are said to produce symptoms similar to those occasioned by Datura.

Previous to our entrance upon the application of Sanguinaria, to the treatment of particular diseases, it ought to be remarked, that, in such an essay, no further pathological details can be expected, than what are just sufficient to designate the forms of disease to which the remedy is peculiarly adapted; nor can it be proper to describe the whole of the treatment, that may, at the same time, be necessary for the specified cases. It will, doubtless, be considered sufficient to mention the peculiar manner in which Sanguinaria is to be administered, and the immediate auxiliaries, which are indispensable to its best operation. Nor must it be imagined, that the method of management by Sanguinaria is intended to be recommended as the only proper, and the only good treatment of these diseases. It is a great error to suppose that diseases can be treated successfully only in

one way; though, as efficient medication of almost every sort, invariably produces more or less change in the state of the disease, and the condition of the patient, the secondary and latter parts of a course, for any particular disease, must be various, in accordance with the measures that have preceded it; which shows the futility of attempting to unite different and opposite plans, in any individual case. Thus, for illustration, whether Cinchona is useful, or even admissible in the secondary or latter stages of typhus, depends entirely upon the nature of the early treatment; and the precise period at which it may be entered upon with propriety and advantage, will vary as much, and probably even more, in consequence of certain variations in the preparatory course, than from the circumstances of the disease, independent of treatment. This is more or less true with respect to all medication, except that with which it is usually proper to commence a course. I trust it will be admitted, however, that for all cases, there is usually a choice of methods, and that there are few, in which one method ought not deservedly to have the preference over every other. Whenever this is believed to be the fact, with respect to the method by Sanguinaria, it will generally be specified.

Whenever a remedy is recommended in any considerable number of diseases, most physicians immediately conclude that the article is much overrated, and that the principal powers ascribed to it, are merely imaginary. This opinion is supposed to be confirmed, if disappointment follows a few trials, made either in a different set of cases, or after a different preparatory course, or with different auxiliaries, or with different preparations of the medicine, or with bad specimens, or at least under different general management, as respects doses, periods of repetition, accompanying regimen, or perhaps the whole of these circumstances in conjunction. In this manner, much of the valuable experience of Störck, with respect to certain narcotics, has been rejected, and that even by persons who have never read his works. The same is equally true with respect to the experience of Fowler, in reference to the Arsenous-acid, and Nicotiana Tabacum; of Withering in reference to Digitalis; of Percival in reference to the Cocculus-palmatus; and, within a few years, an attempt has been made in the same way, to prove the complete medicinal inertness of the Sclerotium-Clavus or Ergot, in opposition not only to the experience of Dr. Stearns, but also to the united experience, probably, of a majority of the physicians of the United States. Others are ready, from mere theoretical prejudices, to reject a remedy recommended in the manner above specified, and requiring discrimination, vigilance and

care, for its successful employment. To such, nothing need be said, as plain matter of fact is too tame a thing, to make any impression upon such minds. But to those few, who, from a small number of trials, and that under unskilful management, perhaps for want of suitable directions, have been disappointed in the effects of a new article, a serious attention to the following sensible observations of an author, is earnestly recommended. "How few medicines preserve the good character, which is given them, by their first promulgators!" "It is not that the promulgator has any intention of deceiving the public, nor that he has even deceived himself." "It is that he has studied the properties of the medicine so closely, as to have acquired a knowledge of its action, which he in vain attempts to teach others." "We say in vain, because they cannot learn it, unless they study it as intensely, as he himself has done." "There are few medical men, who do not possess some remedies, with which they can produce effects that differ from the" (careless) "experience of their neighbours." To the foregoing ought to be added, what Ferriar has so justly remarked, that "the management of a remedy which requires care and delicacy, is not to be immediately acquired;" to which he subjoins, that this "does not imply any assumption of superior skill, but merely of attention," and I will add, PRACTICE.

But it should be more particularly remarked; that a considerable number of diseases, which seem, at first view, to be materially different in many important respects, and which are in fact so, nevertheless have something in common, as regards their pathology, and this something may even constitute the most essential part of these diseases, so that an individual medicine, which operates only upon one principle, may be of more or less service in the whole; the particular variations of each disease from the rest, requiring only variations in the auxiliaries, the mode of managing the article and the accompanying regimen. This is well known to be peculiarly the fact with respect to the Proto-Chlorid of Mercury, and perhaps to a greater degree, than with any other article of the Materia-medica; but it is likewise the fact, to a greater or less extent, with respect to Sanguinaria, and a considerable number of articles belonging to the same general class. Besides, it is seldom that a remedy possesses one power alone, but almost always a combination of two, three, or even more, so that under different management, and with different auxiliaries, it may be useful for different purposes, and in widely various diseases.

We have already stated that much the most important medicinal power of Sanguinaria, is that of an *acrid-narcotic deob-*

struent; that next to this, its peculiar *emetic* properties are the most valuable; and that after these, its *expectorant, emmenagogue,* and *cholagogue* virtues still render it worthy of high consideration. In addition to these, its *errhine* or *sternutatory,* and *escharotic* or *antipsoraic* operations make it deserving of mention, in a considerable number more of troublesome complaints. I trust, therefore, that on deliberate consideration of all these respective powers, and operations, no one will be disposed to censure, as incredible, or preposterous, the extent of the subsequent catalogue of diseases, in which it is maintained to be more or less serviceable.

All the diseases for which Sanguinaria has ever, to my knowledge, been recommended, or in which it has ever been supposed to be useful, are comprised in what follows. The manner in which it is to be managed, and the principles upon which it is thought to be serviceable, together with its principal merits and demerits in each, are likewise briefly discussed.

1st. LIMOSIS-VULGARIS, or *idiopathic chronic functional derangement of the digestive organs*—a gastro-hepatic affection which occurs in an almost countless number of grades and forms, or, in one word, varieties, and which, under different circumstances, manifests itself by an almost endless diversity of seemingly anomalous symptoms—a disease for which I find no authorized name, which is sufficiently comprehensive, though it is principally included by Wilson Philip under the general denomination of *Indigestion,* by James Johnson under that of *Morbid sensibility of the stomach and bowels,* by Ayer under that of *Marasmus,* and by Good under that of *Limosis.** As this disease is essentially attended by more or less of an irregular and vitiated secretion of bile, and most commonly by a deficiency, which indicates either torpor or atony of the liver, or both in conjunction, an article possessing the general powers of

* Under these general denominations, I would include the following diseases of Dr. Good, viz. *Œdontia-dolorosa re-nervorum* and *re-sympathetica, Œdontia-stuporis,* and probably most cases of *Œdontia-incrustans* et *excrescens;* also *Ptyalismus-mellitus,* and in all likelihood, *Dipsosis-avens* et *expers;* the whole genus *Limosis,* except *Limosis-Pica v. insula;* many, at least of the symptomatic cases of *Coprostasis;* all the symptomatic cases of *Diarrhœa-chylosa, Lienteria,* and *gypsata; Icterus-spasmodicus;* symptomatic *Coryza;* many cases of *Aphonia-atonica;* many of the symptomatic cases of *Bex;* many of symptomatic *Dyspnœa;* symptomatic *Ephialtes;* many transient *ephemeral,* and even more lasting *anomalous febrile paroxysms;* some symptomatic *Hæmorrhages,* and *Marasmi,* as *Dyspeptic-Phthisis;* symptomatic *Neuralgia-faciei, mammæ* et *pedis;* symptomatic *palpitation;* probably all cases of *Cephalæa-nauseosa;* some varieties of *Hysteria;* some of *Paramenia-obstructionis;* some of *Leucorrhœa,* and some of *Chlorosis-inops.*

Sanguinaria might be expected to be very extensively serviceable in such a complaint. Accordingly, in many of the more moderate varieties of the disease, it may be relied on as a principal remedy. In the more severe and urgent cases, it is useful, however, only as an auxiliary; and in those in which there is very considerable general debility or exhaustion, or great difficulty in retaining remedies upon the stomach, or habitual and urgent diarrhœa, it is entirely inadmissible. In a case of the first description, which had been of long standing, and had arrived at that stage in which the bowels had become extremely irregular, being alternately costive and loose, Sanguinaria in powder was employed twice a day, in as large doses as the stomach would bear without actual vomiting, the quantity being regularly increased, as its immediate operative effects were diminished by repetition, so that a sub-nausea might always be occasioned. After a considerable time, the dose of a tablespoonful became necessary to produce the desired effect. No other medicine was used. In about six months a perfect cure was effected. In those cases of this disease, in which Sanguinaria is relied on merely as an auxiliary, the following is one of the forms in which it has been extensively and advantageously used.

DECOCTUM SANGUINARIÆ COMPOSITUM.

R. Pulveris crassi radicis Sanguinariæ,	- -	℥iij.
Extracti Leontodontis-Taraxaci,	- -	℥viii.
Foliorum Eupatorii-perfoliati,	- -	℥iv.
Pulveris radicis Zingiberis-officinalis,	- -	℥ij.
Pulveris Caryophylli aromatici,	- -	℥ss.
Aquæ puræ Culientis,	- -	O. vi.

Mingle the above ingredients; boil in a close covered vessel to the consumption of half; strain; add a pint of Melasses; simmer twenty minutes, taking off the scum as it rises. When sufficiently cool, add half a pint of proof spirit, (to prevent fermentation,) and keep in a well stopped bottle. The commencing dose may be two fluidounces four times a day, which is to be gradually increased to four. This composition is especially adapted to those cases in which the burden of the disease rests on the liver, without great weakness of the stomach. It usually proves deobstruent, eccoprotic, and tonic, and is an excellent adjuvant to some compound of Iron, Copper, Silver, or Arsenic, with the extract of Conium-maculatum. Commonly, however,

it will be found more convenient to employ the tincture or wine of Sanguinaria, in this disease, than the decoction. For such cases, the required dose of these preparations varies from half a fluidrachm, to two fluidrachms, or even more. As a general rule, it is necessary to repeat it more frequently when the stomach will bear but a small dose, than when it will receive a large one. Unless the quantity taken in the twenty-four hours is considerable, not much is to be expected from Sanguinaria. A *very* strong decoction of the recent roots of the Leontodon-Taraxacum, to which some simple bitter may be added, as *Coptis-trifolia, Hydrastis-Canadensis, Sabbatia-angularis, Scutellaria-integrifolia, Chryso splenium-oppositifolium, Lycopus-vulgaris, Helenium-Autumnale,* etc. and some simple aromatic, as the seeds of the *Amomum-Granum-Paradisi,* will constitute a suitable vehicle, as well as auxiliary, and together with the tincture of Sanguinaria, will constitute a preparation very similar to the above-mentioned more formal one.*

2d. ICTERUS-VULGARIS, or Jaundice, under which I include both *Icterus cholœus,* and *Melæna cholœa* of Good, the latter, in my view, being a variety merely, which usually occurs in exhausted or debilitated constitutions, and which probably derives all its peculiarities from the particular condition of the patient who is its subject.

As in the preceding complaint, so in Icterus-vulgaris, Sanguinaria alone is capable of curing moderate cases, particularly

* It must be remarked, however, that Leontodon-Taraxacum, in a less quantity at a dose, than about two drachms of the extract, cannot be expected to be of much service. This quantity may be easily diffused in an ordinary dose of some bitter, or aromatic infusion, so as to be taken without the least inconvenience on the score of its bulk, unless the stomach is indeed extremely weak and irritable. It is seldom that the simple decoction of this plant is made of sufficient strength to produce much benefit, without an injurious distention of the stomach by the liquid. I cannot, in this place, forbear protesting against the addition of Super Tartrate of Potassa, to this decoction, when it is to be employed in chronic functional derangements of the digestive organs,—a practice, which, I believe, was first recommended by Bergius, and has ever since been servilely copied, by writers both on Pharmacology and Therapeutics, from his time down to the present, and is even recommended by as judicious a practitioner as James Johnson. The Super Tartrate of Potassa is well known to be a refrigerant and reducing or debilitating salt, adapted only to phlogistic or entonic diseases, and when used freely, even in these, extremely liable to leave the stomach and bowels in a disordered and enfeebled state, and much more to increase this state, where it previously existed. Except in the modern and indiscriminate use of Antimony, for all sorts of diseases, whether entonic or atonic, perhaps this is one of the most striking examples of the influence of routine, in opposition to all indications deduced from the known condition of a disease, and the established powers of a medicine.

such as are so liable to affect young persons in the spring season. In the most severe forms of the disease, this article only proves highly useful as an auxiliary; but in the very worst, such as are attended with very considerable exhaustion of the vital energies not only of the liver, but of the whole system, very little if any benefit is to be expected from it. Sanguinaria is principally serviceable in Jaundice as a deobstruent merely, and for this effect, it is to be given after suitable preparation of the case, in uniform doses, at regular and short intervals. The inability of the stomach to retain it without disquiet is the proper limit to the dose. Whenever emetics are indicated in this disease, Sanguinaria is believed to be one of the best that can be employed. Under proper management, and with suitable perseverance, this article will most generally assist greatly in removing the torpor of the liver, which always exists in this disease, and will contribute very much to the production of a uniform and free secretion of healthy bile. As the result of comparative trial, I prefer the tincture and the Wine of Sanguinaria in this complaint to any other preparations. For a strong and well marked case of Jaundice, in a constitution not impaired by previous disease, and after preparation by a slow cathartic of the Proto-Chlorid of Mercury, and perhaps an emetic of Sanguinaria subsequently; the following composition will be found a highly efficacious deobstruent, well calculated, by suitable perseverance in its use, to remove the remainder of the disease.

MISTURA HYDRARGYRI PER-CHLORIDI COMPOSITA.

R. Hydrargyri Per-Chloridi, - - -	gr. i.
Extracti Conii maculati, - - -	gr. xl. vel lx.
Spiritus Menthæ piperitæ, - -	f. ʒj.
Tincturæ vel Vini Sanguinariæ, - -	f. ʒj.
Aquæ puræ, - - - -	f. ʒiij.

First dissolve the Per-Chlorid of Mercury in the water, then diffuse the extract of Hemlock in the solution by trituration in a Wedgewood mortar, and subsequently add the Spirit of Pepper-Mint, and the tincture or Wine of Sanguinaria. Four fluidrachms of this mixture, repeated every three hours, till the disease is relieved, or the medicine contra-indicated, will be found a medium dose and quantity. Before pouring out each dose of the mixture, it should be so shaken that there is no sediment in the vial which contains it. It must be remarked that the quantity of the Per-Chlorid of Mercury which is taken in

the twenty-four hours, should fall short of what will produce tormina or catharsis, that the extract of Hemlock should barely produce a very slight narcosis, and that the Sanguinaria should just fall short of the nauseating point, in order to insure the best success of the remedy. The proportions of the ingredients of the composition should therefore be varied from time to time, according to the variation of the susceptibilities of the patient, and of the condition of the disease. The formula is given, not to be followed implicitly in all cases, but as a medium preparation, from which the circumstances of particular cases may require considerable deviation.*

3d. PARABYSMA-COACTUM, or, *an indurated enlargement of one or more of the viscera contributory to the digestive function, and this from infarction.* In all the species or varieties of this disease, which depend upon torpor or infarction, in whatever viscus the disease may be seated, Sanguinaria may often be advantageously employed, both as an emetic, and a deobstruent; but in the greatest number of cases perhaps it is to be considered only as an auxiliary, though often a very efficient one. The same preparations may be used, and with the same management as in Icterus.

4th. BEX-SICCA ET HUMIDA, or, *idiopathic dry and humid Cough*, which appear to me to be mere varieties of one individual complaint. As this disease when truly idiopathic, depends in all probability upon some morbid condition and irritation of the bronchial membrane entirely distinct from inflammation, we should suppose, *a priori*, that a combination of narcotics and deobstruents would be the most appropriate remedies, and the results of practice have verified this conclusion. But as respects its narcotic properties, Sanguinaria is too inefficient for this complaint, though as a deobstruent it possesses adequate power. Accordingly, Opium, Conium, Hyoscyamus, Solanum-

* Jaundice is one of the diseases in which Dr. Bird supposes that Sanguinaria is useful, especially as a tonic; and he infers its tonic operation from its power of relieving "*torpor of the liver, attended with Colic, and yellowness of the skin.*" Suppose that the Doctor, in conformity with his own notions, should substitute Cinchona for Sanguinaria; how soon is it likely that he would effect a cure of this sort of symptoms in any genuine case of Jaundice? He next tells us gravely, that there are differences of opinion as to the manner in which Jaundice is relieved by Sanguinaria. He says that Dr. Barton considers it efficacious, by virtue of its emetic powers; and that Drs. Smith and Allen consider it efficacious, because it possesses properties similar to Digitalis;—but *his* analysis shows the perfect "*futility*" of these opinions, and developes the true principles of its operation; and according to this, it relieves Jaundice, by virtue of an operation analogous to Cinchona!!

nigrum and tuberosum, etc., must be considered as the principal remedies, though I believe there is scarcely any article which is more efficacious as an adjuvant than Sanguinaria. The tincture and Wine, in conjunction either with Camphorated or simple tincture of Opium, are found to answer this purpose extremely well, but the syrupus aceti Sanguinariæ in similar combination with some preparation of the Papaver, is perhaps the best form for its administration in this disease. If Conium, or Hyoscyamus, or Solanum are required at the same time, they may be given in the form of pill, and in conjunction too with tonics, if the case requires them. Sanguinaria is perhaps the most useful in those chronic Coughs that are the sequel of inflammations, whether acute or sub-acute; but even in most cases of these, some more efficient narcotic, and often tonics likewise, are necessary adjuncts. The same remarks are also applicable to chronic Coughs that remain after severe Catarrh, whether of the common or epidemic sort. For the cases now under consideration, the following formula has sometimes within my knowledge been employed with much advantage.

R. Pulveris crassi radicis Sanguinariæ, - -
——— —— radicis recentis Araliæ racemosæ,
——— —— radicis Panacis quinquefoliæ, - āā ℥j.
Seminum contusorum Sisonis Anisi, - - ℥ij.

Mingle,—add eight fluidounces of the officinal diluted Alcohol, and a pint of boiling water,—digest six hours in a close covered vessel,—strain through flannel, and add white sugar till it is sweet enough to the taste of the patient. The dose may be about half a fluidounce, four times a day, with tincture of Opium *pro re nata.* The terebinthinate and mucilaginous properties of the Aralia, and the mucilaginous, slightly saccharine, aromatic, and bitter ones of the Panax, are probably what render these articles serviceable in idiopathic Cough. Lycopus-vulgaris, or Waterhoarhound, and Marrubium-vulgare or common Hoarhound, are also useful adjuvants to Opium and Sanguinaria in Bex-sicca and humida. Both these articles, beside their tonic properties, possess considerable nervine power, or in other words, the power of allaying morbid irritability, and irritative frequency of the pulse, and of restraining irritative cough.*

* Dr. A. W. Ives, the judicious annotator of the second American Edition of Paris's Pharmacology, is of opinion that this nervine operation depends

5th. Bex-dyspnoïca, or *Dyspnœal Cough.* This affection seems always to be connected with, and perhaps the consequence of a slight degree of Dyspnœa-chronica, and possibly it ought to be considered as a mere symptom of that disease. If so, however, the symptom is often much more prominent than the primary affection, for it is generally the fact, that the Cough will have become extremely troublesome before the Dyspnœa is considerable enough even to attract the attention of the patient. Perhaps, in the cases which I intend, both the Dyspnœa and the Cough are equally symptomatic of irritation in the digestive organs, since I have never known them occur where there was not a certain degree of Limosis, or at least a great liability to Cephalæa nauseosa, or Sick-head-ache. In this malady, which is always much more harassing than dangerous, Sanguinaria is usually of more or less service; but it must be remarked, that it is much less decidedly and much less permanently useful, than in Bex-sicca, and humida. Combination with Opium, or at least some article considerably more narcotic than Sanguinaria alone, is always necessary. It is to be wished that some more effectual remedy than is now known, could be discovered for so troublesome a complaint. I have known Lobelia-inflata, both by itself, and in conjunction with Opium, very thoroughly tried in a large number of cases, but with only about the same degree of relief that follows the use of Sanguinaria. Considering the efficacy of Lobelia in Dyspnœa-exacerbans, such a result was unexpected.

upon a very feeble narcotic power, as if every thing which acts upon the nervous system were narcotic. On this point I must beg leave to express my dissent from his opinion. In reference to its laxative effect, I have, in more than one instance, prescribed at least, for two or three days, two pints of the decoction of this article in the course of the twenty-four hours, without observing any greater degree of this nervine effect than was produced by half a pint, and without one single unequivocal symptom of narcosis, all of which is in perfect analogy with mere nervines, and could not have happened had the Lycopus been truly a narcotic. Nervine are certainly different and distinct from narcotic properties. Musk, and the web of the Tegenaria-medicinalis, or the medicinal Spider, possess the former in an eminent degree, but they certainly have none of the latter. Coffee, and Castor, and Assa-fœtida, are all nervines, but not narcotics. It may, perhaps, be well to add, that Lycopus-vulgaris was used for many years, in Connecticut at least, and many more in Europe, under its legitimate name of Water-hoarhound, before a certain licensed and distinguished Empiric, in the plenitude of his ignorance of Natural History, mistook, and recommended it for the Bugle of the old English Herbals, which is in reality a species of Ajuga. The Lycopus-vulgaris, (sometimes called L. Europæus, and sometimes L. Americanus,) is really a vastly more valuable article than the Lycopus Virginicus. Both possess exactly the same sort of properties, but the Lycopus-Virginicus is feeble in comparison with the Lycopus-vulgaris. Dr. A. W. Ives's suggestion in reference to the importance of distinguishing the two species is therefore well founded, though I think not to enable us to select the Lycopus-Virginicus, but rather the Lycopus-vulgaris.

Under my observation, Conium has likewise failed of accomplishing much in Bex-dyspnoïca, notwithstanding its great value in Limosis. As the author of this Essay himself labours under dyspneal Cough, he trusts that his observations upon the most appropriate remedies will hereafter be more complete. From its known powers, I should think that Actæa-racemosa promised considerable in Bex-dyspnoïca, and likewise Galvanic-Electricity, which has been found so useful in decided chronic Dyspnœa, though the inconvenience of employing it must detract greatly from the value of the last.*

6th. BEX-CONVULSIVA, or *Whooping-Cough.* In the second stage of this disease, that is, after the catarrhal symptoms have ceased, and the convulsive cough has supervened, Sanguinaria is often a useful remedy. Should repeated vomiting be indicated, as it undoubtedly is occasionally, Sanguinaria will be found much preferable for this purpose, to Antimony and Squill, the two articles most commonly employed; and it is believed likewise to Zinc and Copper, which are also unquestionably preferable to Antimony and Squill, in this disease. In the intervals between the employment of emetics, which within the sphere of my observation hitherto, have undoubtedly been used too frequently, Sanguinaria may be often employed with benefit as a deobstruent. Under these circumstances, it must be given with freedom, and either in conjunction with more efficient narcotics, or with mineral tonics, or both, as circumstances may require. The same decided and speedy relief, however, which is often afforded to *Bex-sicca*, and *humida*, by Sanguinaria and Opium, or some other narcotic, is not to be uniformly expected in *Bex-convulsiva.* It is, at best, rather an obstinate complaint, and one not in general as manageable by medical treatment, as is to be wished. There are instances, nevertheless, in which medication is both prompt and effectual in its beneficial operation; and the disease should not be neglected because treatment has failed of being serviceable in some cases.

* Let it be particularly observed, that Sanguinaria is not recommended as an expectorant, either in this, or any idiopathic Cough. Contrary to the prevailing notion, I had long been persuaded that the occurrence of expectoration in such cases is greatly to be deprecated. Where free expectoration has occurred spontaneously in idiopathic Coughs, or has been produced by art, and cannot speedily be checked, there is always considerable danger that the patient, whatever may be his temperament or diathesis, will run down under such symptoms as occur in the secondary stages of Catarrhal-Phthisis. Idiopathic-Cough certainly does not depend upon any inflammation of the bronchial membrane, which can be resolved by an increased secretion of mucus, such as takes place in Catarrh, nor by a mucopurulent secretion, which is often so favourable a termination of Pneumonitis.

(To be continued.)

We make no apology for introducing, in this department of our journal, the following translation of Dr. Popken's valuable Latin essay on the malignant epidemic of East Friesland (Germany).

The preface, together with the notes and emendations of the highly respectable American translator, cannot fail to give additional interest to this production. [*Eds.*

Art. II. *History of the malignant Epidemic, as it appeared at Jever in East-Friesland, in Germany, in the year* 1826. By F. A. L. Popken, M. D. Translated for the Medical Recorder, by Thomas Miner, M. D. of Middletown (Conn.).

To his most serene highness, Peter Frederic Lewis, duke of Oldenburgh, with the most profound veneration, this work is dedicated by the author.

Author's Preface.

The prevailing *epidemic constitution* has such a commanding influence over all diseases, that nothing in our art can be pronounced stable, without a regard being had to this subject. The knowledge of this universal law, during the reign of any disease, especially if it is acute, and how the treatment is to be varied according to it, merit the peculiar attention of physicians. In writing the history of this memorable and most distressing disease, which has as yet scarcely left our region of Jever, and the adjoining province of Groningen, I hope to have undertaken a work not altogether useless, since the character of the stationary constitution (under which we now live, and may perhaps live ten years longer,) is thoroughly illustrated in this very disease, as a mournful example, and since no one of the physicians who have practised in it, has, to my knowledge, described this epidemic. I am not ignorant, to pass by other examples, that the fever which Sir John Pringle describes as having prevailed among the British troops, in 1742, in Flanders, agrees in many points of view very exactly with our disease, and yet, the difference of the epidemic constitution sufficiently distinguishes them; while on the other hand, the severity and diffusion of our epidemic, and the wonderful diversity of the symptoms, would appear to make it belong to a disease of a different kind.

Having first made some remarks upon the topography of our region, which will equally apply to that of Groningen, I shall give the general history of this most destructive disease; and afterwards, I shall attempt a universal description of the epidemic, as accurately as possible; and finally, I shall endeavour to point out the peculiarities of each of the varieties, with their particular method of treatment.

The facts in the subsequent pages have been collected with much labour, from the personal observation of hundreds of cases, and, to my knowledge, have not hitherto been recorded. Having undertaken the task of describing an epidemic, which Sydenham himself found difficult to execute, if I do not entirely fail I shall be satisfied, and content myself with the indulgence of the public if it cannot bestow its commendation.

Jever, February, 1827.

Translator's Preface.

Any physician, who has ever witnessed a malignant epidemic, must instantly be struck with the complete internal evidence, that Dr. Popken has not compiled his work from the labours of others, but that he has most acutely and accurately drawn his description from the bedside of the patient, and sketched the portrait from life. We have all heard rumours of the malignant epidemic which, in 1826, devastated Groningen, a province of the Netherlands, and extended into East-Friesland, and probably other parts of Germany. It has been reported in the public prints, that a third of the whole population of Groningen, at one and the same time, lay sick of the disease. It is a subject of the highest interest to the physicians of the United States, to obtain information of the real nature of this epidemic, in order to compare it with those which at different times have prevailed in their own country. This translation has no pretensions to being literal; but it has been endeavoured to express faithfully the sentiments and facts of the author, without suppressing, colouring, or distorting his meaning.

The disease which prevailed at Jever and Groningen was nosologically that which has been usually termed a *bilious remittent fever;* but, instead of being mild, as such fevers frequently are, and yielding easily under moderate treatment, there was such a shock given to the whole system, so great a diminution of the vital principle from the very access, that the most strenuous and persevering efforts were usually required, or the patient would soon be beyond the reach of all medical aid.

The subject of *epidemic constitution*, or the prevailing *diathesis*, which, unfortunately, is but too little regarded at the present day, appears to be perfectly understood by our author. He is fully convinced, that diseases of the same name may vary very essentially in their character, and consequently require very different and even opposite modes of practice. This fact, once understood, satisfactorily explains most of the seeming contradictions in therapeutics, which, without an acquaintance with this important circumstance, so much confound medical students, as

well as physicians who never have had an opportunity to witness a *genuine* malignant disease.

In translating from the Latin, it is perhaps more difficult to express the precise shades of meaning than from most other languages. However, it is hoped that this translation, notwithstanding it is confusedly imperfect, from the very valuable matter of Doctor Popken's history of the epidemic, will prove to be an acceptable and interesting present to the medical profession of our country.

If the translator is not much mistaken, the accounts of the ataxic and adynamic fevers, which frequently appear upon the continent of Europe, will compare much better with many of the epidemics of our own country, than the mild and non-malignant diseases of England. It is certain, that the typhus, which spread over so great a portion of Great Britain and Ireland, in the years 1817, 1818, and 1819, varied so much from diseases which have been called by the same name in America, that the practice which is said to have been so successful in it, will by no means apply to many varieties of fever, which, within a few years past, have prevailed on this side of the Atlantic. Few writers appear to have been such perfect masters of their subject as Dr. Popken, and there are fewer still who have so accurately described those peculiar symptoms which characterize a malignant disease.

November, 1827.

CHAP TERI.

Topography.—The region in which Jever is situated, is bounded on two sides by the sea, and consists of two kinds of soil, the one sandy, dry, and rather elevated, the other lying lower is rich, moist and clayey. The former (according to the estimate of *Arends*, being about a sixth part of the territory) seems to have been the ancient boundary of the sea, while the latter appears to be alluvial, having been gradually deposited within the gravelly mounds by which it is surrounded.

The diseases which have at various times invaded our territory, appear to have varied both in their frequency and nature, according to the state of the soil in which they prevailed. Upon the more elevated ground the air and water are purer, and there is less sickness; on the other hand, in the low and more fertile grounds, intermittents are so common, that there is no season of the year in which they have not occasionally occurred. As Sir John Pringle observed was the case in Flanders, so with us, our principal disease, returning every autumn, is a bilious fever, attended with symptoms resembling cholera, arising unquestionably from paludal effluvia. This disease prevails more or less epi-

demically every year, and often terminates in an obstinate intermittent; indeed, it is frequently a simple intermittent in its first access. It will not excite any surprise that such stress is laid on paludal effluvia, when we recollect, that our country is so much intersected by canals, that a good judge has considered them as covering a tenth part of its surface. Our autumnal fevers are found to prevail the most, when warm days alternate with cool nights, so that in addition to the exposure to paludal miasm, the cuticular perspiration is liable to be suddenly suppressed.

The fever about to be described agrees, however, but partially with that mentioned by Pringle, our epidemic being much more severe and extensive, though the same bilious symptoms resembling cholera are common to both. Our little town Jever, in which the disease has exerted its greatest fury, is situated between the sandy and the low grounds, and has many ancient ditches, which very much favour the evolution of paludal miasm.

CHAPTER II.

History of the disease.—Though our region had always been fertile in intermittents, the vernal were more frequent than ordinary in 1826. The constitution, for the preceding ten years, had been uniformly inflammatory; our fevers had therefore easily yielded to that mild antiphlogistic practice, which is recommended by Van Swieten and Frank. The epidemic constitution had been so uniform, that all the intercurrent diseases were of the same character; but a great and universal change of the epidemic constitution, conspiring with a new and very severe disease, which both occurred at the same time, wonderfully confounded the minds of those physicians who were attached to the antiphlogistic method of treatment. As the heat daily increased, those fevers did not, as was formerly the case, grow milder, but became more obstinate, and were observed to yield no longer to the ancient and happy, mild, antiphlogistic method of treatment. In the beginning of the month of July, when our region, filled with canals almost exhausted by the rays of the sun, presented a vast surface of stagnant water, the first traces of a malignant disease were seen, soon becoming more and more apparent. As the summer advanced, very severe symptoms were superadded to those fevers which resembled vernal intermittents, escaping at first the attention of the physicians, and deceiving them by their counterfeiting other diseases. Among these was an apparent phrenitis which assumed a tertian type, occasionally so malignant as to prove fatal during the first paroxysm, or at farthest, when neglected, in the second or third exacerbation. In the month of August, when our fevers usually begin to assume a bilious cha-

racter, the epidemic of this year exhibited its malignancy, in consequence of a dangerous cholera supervening. But the disease did not, as some maintained, become a true cholera; it was this symptom which was superadded to the fever, or, as Sir John Pringle very pertinently remarks, the bile was not the cause of the disease, though bilious symptoms were commonly conjoined to it.

By the middle of August, the mask was laid aside, and the nature of this fatal and pestilential disease, already raging through all the vicinity, was fully apparent. The true and wonderful character of a malignant intermittent became fully developed, so that when death did not immediately ensue, a peculiar typhus followed, which, from the great collapse of the vital powers, as in other malignant cases, seemed to remove all hope of a happy convalescence.

Before proceeding to a particular description of the epidemic, I shall state the general symptoms which were common to most varieties of the disease, from which it will appear, that the disease so accurately described by Pringle was the same, though ours had a greater variety of symptoms, and differed in the genius of the epidemic constitution.

CHAPTER III.

General Description of the Epidemic.—In some, the disease originating in a regular tertian was very insidious at first, but soon destroyed many who neglected it, supposing it to be our ordinary fever, which many of the common people, from its usual mildness, imagine to be salutary. There was, however, in most cases which were neglected, some symptoms belonging to the second, third, or fourth exacerbation, which either proved to be immediately fatal, or was followed by death in the succeeding paroxysm. In others, an extreme prostration of the vital powers (a true sign of malignancy, which for the most part seems to consist in this symptom) appeared from the beginning, so that immediately, from the first attack, and without any evident cause, there was the greatest loss of vital energy, entirely disproportioned to the symptoms and period of the disease. The face was at the same time collapsed, and commonly cadaverous, the lustre of the eyes diminished, an almost leaden heaviness of the limbs, a confusion and stupor of the head, with that peculiar dejection of mind, (which the translators of Hippocrates render *dæmoniacum vel divinum,)* that showed the miasmatic character of the disease. To these, acceded frequent yawnings, loss of appetite, rigors, and a dry heat greatest on the alternate day, with a frequent and quick pulse, without sweat; though in a few cases, there was perspiration from the begin-

ning, which mitigated the symptoms, and rendered the course of the disease milder. In both cases, however, the prostration of strength continued increasing, the intermissions of the fever, which at first were very short, became more obscure till they disappeared, though, with few exceptions, the double tertian type was observed. Various other symptoms, according to the violence and duration of the disease, were noticed. In many, there was a strangury from the first; in others, it occurred about the fifth day.

In many cases in which the disease, beginning as a tertian, had soon assumed the form of typhus, when the latter was not suddenly fatal, it again reverted back to a tertian; in other protracted cases, the intermittent form was not resumed.

Some who survived the disease, besides experiencing an almost incredible debility, were affected with tumours of the spleen and liver; in others, there was distension of the intestines, and in females, *pneumatosis uteri.* Hebetude of mind with loss of memory was observed in a few, and anasarca was not rare. Œdema of the feet was not a bad symptom in convalescents, and a genuine ascites rarely followed the disease. Our epidemic was so nearly allied to an intermittent, that if we except the prostration of the vital powers, and the symptoms depending on that prostration, it would have been considered as a simple or double tertian.

It is to be moreover observed, that like other intermittents, our disease was liable to innumerable relapses, exhausting the patience of the sick, resembling the eternal labours of the Danaides, by its frequent return. It is further to be noted, that while this epidemic prevailed, it seemed to absorb all diseases, so that scarcely any other was seen during its prevalence. Nor is this strange, for such was the atmospheric constitution, that whenever a case of a different disease appeared, in three or five days it would lose its peculiar symptoms, and assume the form of the epidemic.

What Sydenham observed concerning the plague of London will strictly apply to our epidemic; "*this year, fatal to so many thousands, was otherwise very mild and uncommonly salubrious.*" Indeed, what Van Swieten remarks concerning epidemic diseases, "*that the valetudinarian, the weak, the cachectic, and the gouty, are less affected by them,*" agrees peculiarly with our epidemic, which in like manner particularly spared those who were infirm, and labouring under any chronic disease. Those who were subject to asthma, head-ache, or other chronic affections, were free from their accustomed complaints, and enjoyed the best health. In some convalescents, a frequent

pulse and nocturnal sweats remained, without other inconvenience than the attending debility; and though these symptoms resembled hectic, they were unlike it in their consequences, since they seemed to remove the cause of the disease, which had appeared not to have been hitherto subdued, and proved to be a kind of protracted crisis. In many, these sweats were so copious, that they resembled an *ephemera sudatoria.*

These remarks being premised, concerning the general character of our disease, some observations upon the cause and prognosis will be added to this chapter.

It is of little consequence to seek the *predisposing* cause, when the atmospheric miasm, the *occasional* cause,* was sufficient to infect the most healthy and robust, and even to make on them the greatest impression. But it is truly wonderful, that the atmospheric cause, which, it would seem, ought to produce the same effects in the same epidemic, should give rise to such various forms of disease, and to symptoms so opposite, and so evidently contrary to each other. The whole summer of the year 1826 was very dry and warm, so that there was a great scarcity of pure water; our region being intersected by canals, presented a vast surface of stagnant water, a most prolific source of atmospheric miasm, to which alone many pestilential epidemics owe their origin. The examples of this kind are so many and so obvious, that it would be superfluous to cite authorities. This atmospheric miasm is nothing more than paludal air, or the exhalation arising from our country scorched by the rays of the sun. It is, therefore, very easy to conceive, how this cause should produce an intermittent diathesis. Under the same condition of the waters and the grounds, intermittents are endemic in Zealand, where the same atmospheric principle evidently exists; nor is there much variation of diathesis in the West Indies, where, from the same causes which prevailed with us during this fatal summer, the yellow fever is every year endemic. In fact, the yellow fever resembles that variety of ours, which was attended with cholera. It would be very desirable to understand more clearly the nature of this pestilential miasmatic principle, and I have consulted many authors upon the subject, but hitherto in vain. The effluvium seems to be proto-carbonated-hydrogen gas. The evidence of this fact, and the light to be derived from it, will probably be developed in time.

* With due deference to Dr. Popken, he seems to have reversed the matter; the predisposing cause was evidently miasm, conjoined to that unknown something which Sydenham calls *epidemic constitution.* The exciting cause was, as in most other diseases, some error in the non-naturals.
Translator.

Though this disease is very properly ascribed to the excessive heat of the summer, which greatly favoured the diffusion of the pestilential effluvium, which in the latter part of August, and in the beginning of September, had reached its greatest height, yet under the greatest heat the disease began to abate, indeed it became almost extinct. The reason for this phenomenon may be, that the dryness of the air (being already so great as to produce large fissures in the earth,) no longer favoured the evolution of mephitic gas; or perhaps from the great havoc among our population, there now remained but few who were susceptible of being acted on by the pestilential miasm. The former seems to be the most probable, since after moderate rains and succeeding warmth, the disease breaks out anew.

In this chapter it is proper to notice the question so often agitated, whether our disease was, by itself, or under any circumstance, to be attributed to contagion? This question is also of great importance to both citizens and magistrates, since it was evident that after an individual of a house or family had once contracted the disease, it was rare for any member to escape the complaint.

In the first place, as it is evident that this disease is of *vegetable* origin, it seems difficult to imagine, how a principle similar to *animal* contagion can be generated in the bodies of the sick which shall continue to produce the same disease.

Secondly, the universality of the disease, which in nearly the same day attacked hundreds of the most healthy, seems to imply a general and widely diffused cause. It seems difficult to imagine a case, in which hundreds are attacked at the same time, in whom there existed no previous apparent deviation from health, merely in consequence of communication with the sick. Indeed, no other disease so widely diffused has ever been known, except it arose from atmospheric miasm. Perhaps the immunity of those physicians who visit hundreds of patients by day and night, is one of the strongest circumstances.

Again, our disease does not creep from house to house, but with the rapidity of a torrent overwhelms all the vicinity. This shows that it is propagated in the atmosphere; whereas, in a really contagious disease, however general it may be, we can trace the history of its origin, and can ordinarily point, as with the finger, to the time when, and place where, the patient contracted the malady.

When these reasons are considered, we hope it will appear beyond the shadow of a doubt, that our epidemic did not belong to the class of contagious diseases, but that its cause is to be found in the peculiar state of the surrounding atmosphere. Nor

must we pass in entire silence that particular chemical theory at which we have before hinted, and the practicability of changing the air by chemical means.

Sorbait asserts, "*that the plague which was raging in the vicinity of Moselle was suppressed as by a miracle, in the season of the vintage.*" The thought instantly occurred, whether the miasmatic gases in bed-chambers and houses might not more probably be changed by art, than that so large a portion of the atmosphere, as that of Moselle, should suddenly part with its deleterious properties? in a word, whether the miasm might not be decomposed or neutralized by the vapours of oxy-muriatic acid or chlorine? An occasion occurred in the barracks which were near a stagnant ditch, where a number of soldiers were daily seized of the disease. Their sleeping room, which was as near as possible to the ditch, I caused to be fumigated after the manner of Guyton Morveau, and with complete success, as from that day no one of the soldiers occupying the room became sick, though previously one or two daily were taken down by the disease.

A deluging rain which fell in February, 1825, and almost ruined our fields, was supposed to have had some agency in producing the epidemic, and in countenance of the idea it is recorded, that in the last century a similar deluge preceded a similar epidemic.

It is not to be denied that in those parts of the country, where the water of the sea had remained stagnant from that time, the disease raged the most violently. But to this fact, another may be opposed, that in those places of our territory which are nearest the sea, where there is the greatest want of fresh water, and where the deluging storm had made its greatest ravages, the number of the sick was much the least. The reason, however, is obvious. First, the soil of these shores is sandy; secondly, there is a deficiency of fresh water continually; the sandy ditches are dry so soon that there is very little paludal miasm; thirdly, and lastly, the sea waters in these places are kept in motion by the tide, which is not the case in the remoter and interior districts.

Though from these considerations it might be inferred, that the deluge was a partial cause of the epidemic, yet besides the authority of Jackson, we have a circumstance of much weight on the other side of the question. In our city fever, where there is not a drop of sea-water, sufficient fomes of the disease evidently existed, it being, as before shown, peculiarly exposed to the paludal effluvia, and less ventilated than the surrounding country.

It may be well to slightly notice the opinion, now obsolete, which has been called the *animated cause of epidemics*, among the striking phenomena of this year. There was in all places, more especially in the lodging rooms which were occupied and exposed to the sun, an abundance of flies, which shed an odour like that of honey. The observation of Hildanus, concerning the time which the plague prevailed at Lausanne, will apply to our epidemic; he says, that "*within the memory of man, there was scarcely ever known such a great abundance of flies.*"

The *proximate* cause of no disease is more difficult to be ascertained, than in intermittents. In the present instance, a disquisition upon it would be rather specious, than of practical utility.

Having concluded our observations upon the diagnosis and ætiology of our disease, we shall make a few remarks upon the prognosis, confining ourselves to what is common to the disease in general, and leaving what respects the varieties to be treated under their particular heads.

And first, truly critical days did not *naturally* manifest themselves in this disease; for the vital powers were too feeble to produce a crisis, unless they were excited and sustained by a very bold and persevering treatment. Critical days are usually observed in diseases treated according to the *expectant* method of Hippocrates, when the powers of nature are sufficiently strong; but it would be very absurd to suppose, that this *autocrateia naturæ* could effectually exert itself, in those cases in which the vital power appears to be nearly extinguished by a pestilential *afflatus* from the very access of the disease. The vital principle, upon the exertion of which crisis alone depends, seems to be paralyzed by the very nature of a malignant disease.

A slight diminution or intermission of the febrile heat, the patient seeming buried in a deep sleep, urgent diarrhœa or vomiting, skin burning and dry, or what was worse, cold and wet with a viscid sweat, face much collapsed, the lustre of the eyes destroyed, tongue dry, cracked and blackish—all these denoted extreme danger; on the other hand, a perfect remission showed that the disease was restored to its pristine form of a simple tertian, which would yield to a mild tonic treatment. But the apparent cases of simple, regular tertian very easily became malignant, if they did not belong to the insidious form of the disease which we mentioned. The most frequent crisis was a universal breathing sweat, which, unless it was colliquative, was always critical and much to be desired; for, after it there was a cessation of the heat, heavy sleep, vomiting, and other symp-

toms, and a perfect intermission ensued. The odour of this sweat in all cases was very unpleasant, striking the nostrils peculiarly, sometimes resembling the smell of rye bread recently baked, at others that of vapid vinegar, and in particular cases it was intolerably fetid. In some rare instances, this sweat gave a blackish colour to the linen. The most obstinate emesis, or bilious catharsis, instantly yielded upon the appearance of the sweat, so that it might be contended, and that not without an appearance of reason, that the morbific matter was ejected through the spiracles of the skin.

There are few malignant diseases in which a universal, breathing sweat is not of advantage to the patient.

Another circumstance, a lateritious sediment in the urine, especially when conjoined with sweating, contributed to a favourable solution of the disease. However, we are not to understand, that nature alone, a few very rare cases only excepted, was ever able to produce a favourable crisis, without the assistance of art. Unless there was the most powerful assistance given, and this too under favourable circumstances, death was almost certain.

In many cases, especially in the beginning of the epidemic, a red miliary eruption, sometimes resembling psora, supervened upon the crisis, soon scaling off, though in a few cases the disease was preceded by the eruption. Exanthematous pustules, as in regular intermittents, were a favourable omen. Deafness supervening, though often critical in other severe acute diseases, (as in the petechial fever, which some years since prevailed among us,) was very doubtful in this. Watchfulness was a frequent attendant on the disease, and though it could not be esteemed favourable, yet it was to be preferred to somnolency, which portended a great severity of disease, and sometimes apoplexy, or a deadly coma. Where no sweat appeared, it was unfavourable. The evacuation of bile, of itself, never appeared to be critical. Strangury was commonly a good sign, and often preceded a crisis by urine. Œdema of the feet, among convalescents, was favourable, though it was hazardous to repel it by astringents. A diarrhœa was always dangerous, and required to be promptly restrained. Constipation was more favourable, especially in convalescents, and the lightest cathartic increased the debility, and indeed seemed to bring back the disease.

Finally, a peculiar kind of crisis was sometimes observed, which consisted in an extremely painful angina of the uvula, resembling at first view an erysipelas of the fauces, but on a closer inspection, it appeared like that miliary exanthema of the

skin, which has been before mentioned. It attacked the uvula and velum pendulum, sometimes producing suppuration or a superficial desquamation, though it rarely attacked the fauces.

The anticipations or postponements of the paroxysms were a matter of little moment.

What pertains to the treatment of the disease more properly belongs to another head; we shall therefore finish with this chapter the general history and description of the disease, and proceed to point out the different varieties which we observed.

CHAPTER IV.

Simple Paludal Fever.—We call that variety *simple paludal fever*, which very exactly resembles a regular single or double tertian, and scarcely differs from it, except in its masked diathesis. *(indolis.)* From the prostration of the vital powers alone, the common people, whose sagacity in diagnosis is not always to be despised, very accurately pronounced it a malignant disease. In the same way, Van Swieten distinguishes the *ephemera benigna* from the *ephemera Britannica*, and in the same manner our simple paludal fever differs from our regular tertian, in scarcely any thing except its *malignancy*. Indeed, so great is their resemblance, that a maid servant meeting another in the street, related to her as a very wonderful piece of intelligence, that a man had died within a few hours from his attack of the *fever and ague*. Though miasm is the common cause of all the varieties of intermittents, yet a malignant state of the system exists in this, notwithstanding it is concealed at first under its insidious appearance of mildness, as the easy and sudden change of this, into one of the most destructive varieties, fully demonstrates. Besides, the kind of crisis, as well as the method of treatment which ensures the greatest success, is an additional proof. No case could be trusted to the treatment proper for a simple tertian, without exposing the patient to the most imminent danger. A profuse sweat, exhausting the powers of life, was so peculiar to this variety, that it might with propriety be called *febris sudatoria*.

CHAPTER V.

Bilious Paludal Fever.—The second variety of our epidemic is the *bilious*, that is, with the symptoms of cholera; yet the disease is carefully to be distinguished from true cholera; for the symptoms of cholera disappear during the apyrexia, and, according to Burserius, are the effects of the fever, and follow it.

This variety demands our particular attention, partly on account of its having been the most frequent, and partly because

the bilious symptoms for a long time rendered the real nature of the disease obscure, and were the occasion of many fatal errors. There were usually two or three paroxysms, resembling a regular tertian, of the following symptoms. Chills, sometimes very great, at others they were wanting—burning and dry skin—bitter taste in the mouth—intense head-ache—very generally, anxiety—loss of appetite and nausea—great sensibility of the cardia, with tension and pain increased by touch, in or at the close of the cold stage. As before observed, after two or three paroxysms of these symptoms, there supervened vomiting, at first of the contents of the stomach mixed with bile, then followed pure bile for the most part eruginous, ejected with the greatest effort, and generally at the same time attended with bilious dejections from the bowels, producing extreme debility. Whatever is taken into the stomach continues to be rejected till copious sweats break forth, which put an end to the paroxysm. If the disease was of the double tertian type, as was most frequently the case, upon the alternate days these bilious symptoms supervened, while upon the intermediate days the paroxysm was milder, and resembled that of a regular intermittent. Upon the second appearance of the cholera, the symptoms were so urgent as to threaten instant death. Sometimes the cholera appears suddenly, without previous fever; but by its tertian periods it evidently belongs to the epidemic. In other cases, there were tormina of the intestines, with tenderness on pressure, and a distention of the hypochondria. In the young and robust, and especially in women just before the return of the catamenia, it frequently counterfeited enteritis, which was the cause of many fatal mistakes among the physicians. It is worthy of note, that an icteric colour of the skin appeared on some patients; nor is this the only symptom in which the bilious variety of our disease resembled yellow fever. According to Sprengel, the latter disease, especially in its lighter form, as it appeared at Demerary, had a very great similarity to ours, as it was of the tertian type, and by all the physicians was considered as non-contagious. As the yellow fever is more mild among the regular inhabitants, as well as less liable to attack them, than strangers, so with us, those who had recently visited our territory, and were not accustomed to paludal miasm, were much more obnoxious to a severe attack of the epidemic. The sweat, as before mentioned, tinged the linen with a black colour, or it appeared as if sulphur had been applied to it, which seemed to confirm the idea that morbific matter was exuded by perspiration. In this variety, I observed no perfect crisis, except those which

were attended with universal, breathing sweats, and a lateritious sediment in the urine.*

* The translator having had frequent opportunities of seeing yellow fever, as well as most of the other malignant diseases, as they appear in the United States, *upon the Atlantic coast*, hopes to receive the indulgence of the reader, for interrupting him a few moments, and calling his attention to a comparison of some of the diseases with the epidemic so ably described by our author.

The yellow fever as it appears on the Atlantic section of the United States, in those places where there is no uncommon intermittent diathesis prevailing, is distinguished from *every other* fever, remittent or continued, by *one* peculiar, diagnostic symptom, *a single suspension or remission of all the symptoms, usually occurring between twelve and thirty-six hours from the access of the disease.* It has about the same relation to the bilious remittent of Jever and other countries, as gout bears to rheumatism. This *single* delusive suspension of the symptoms, in every case of *genuine* yellow fever, is the principal cause of its being so destructive, since the physician is rarely called till after the suspension has ceased, and the disease has resumed its attack with redoubled and irresistible violence.

The epidemic of Jever in its not admitting of emetics or cathartics, or at least unless in the most sparing and cautious manner, on account of the immediate exhaustion of the vital powers that ensued, rather resembles the epidemic of 1673, in which Sydenham could rarely employ evacuations, than yellow fever, in which latter disease most physicians purge very freely. However, cases of fever frequently occur in the Eastern States, in which any evacuation, for several days, from the alimentary canal is inadmissible, though they are very rare in the Southern and Western sections of our country. Besides, most of the fevers of the South and West are attended with a violent stage of reaction, which requires much more energetic means than neutral mixture, or Seltzer water, or even the infusion of serpentaria, (which were the principal preparations found necessary by our author,) before they can be combated with cinchona and other tonics. In yellow fever, the sanguiferous system appears to bear a much greater proportion of the weight of the disease, than it does in the epidemic of Jever. The former appears to be more nearly allied to the *putrid* fever of old authors, while the latter was easily converted into a *nervous* fever.

Cases counterfeiting active phrenitis, pneumonia, and other entonic inflammations, and which bear depletion badly on account of the peculiar epidemic constitution in which they appear, and from the extremely typhoid nature of the fever with which they are attended, are not very rare in any part of the United States, though they are much less common in the Middle and Southern sections, than in the Northern and Eastern.

The *syncoptic* variety of Doctor Popken bears a very striking resemblance to the disease of the Milbank Penitentiary in 1823, as described by Dr. Latham, as well as to the *typhus syncopalis* of New England.

There is nothing very peculiar in the *apoplectic* or *comatose* variety, as soporose affections of the brain, as well as *extatic exultation* of mind, are not rare in most malignant diseases.

The change of epidemic constitution which is noticed by our author, (so that diseases bearing the same name and nosological character, often demand a treatment directly opposite to that by which they had been, a long time previous, successfully managed,) is very frequently as apparent in our country as it was at Jever in 1826. The small pox, though usually it requires a strict antiphlogistic practice and regimen, not unfrequently, in the natural way, demands an efficient support from wine and cinchona.

CHAPTER VI.

Cephalic paludal fever.—We put in the third place that variety which we call *cephalic*, on account of an affection of the brain being the most urgent symptom. There were various grades, from a severe pungent pain of the head, to a complete apoplexy, which, from the intensity of the symptoms, might be termed soporose, comatose, lethargic, carotic, or apoplectic. Either at the first access of the disease, or in the second or third paroxysm, this affection of the brain appeared, which made this variety the most malignant and fatal of any. The same was the fact at Groningen. Bursirius accurately observes, that this system yields a little when the paroxysm is near a close, but does not entirely disappear, there being usually a propensity to sleep, during the intermission. In one case, I observed a complete apoplexy in a man of middle age, who was, the day before, in health, but, within the space of three hours, died in the first paroxysm. It is true, that it was not a regular apoplexy, uninfluenced by paludal miasm, as appeared from the absence of an apoplectic diathesis, as well as from analogy of similar, though lighter cases, with a feverishness which is wanting in a real apoplexy, the pulse in the latter disease being slow and unfrequent, though in most other respects, there is a very striking similarity. The patient is oppressed with a deep drowsiness, from which he is with difficulty aroused, till he sinks into a complete apoplectic state. Bursirius further remarks, that those who recover from the disease, being for the time restored by cinchona, are afterwards strongly inclined to apoplexy, and of a sudden usually die of it.

The distressing and alarming symptoms, which are usually termed malignant, and are so ably described by Dr. Popken, are by no means confined to bilious intermittents, or the epidemic of Jever and Groningen. The same deficiency of vitality, the same paralysis of all the living powers of the system, may appear in any acute disease, whether it is termed nosologically fever, pneumonia, dysentery, cholera, or has any other appellation; and under these circumstances, a very essential variation in the practice, from that which is successful in the lighter and more benign forms, is imperatively demanded.

In yellow fever, typhus syncopalis, and perhaps we may add, pneumonia typhodes, there is a strong tendency to malignancy, the principle of vitality appears to be deficient from the very access, and however mild an appearance they may sometimes assume, there is always danger of their proving suddenly fatal, so long as the system is under their influence. Either of these diseases is unquestionably much more severe and malignant, than the fever of Jever. From the almost certain control that medicine had over the epidemic which is described in this work, it is evident, that had the disease only appeared in sporadic cases, it would have carried with it no uncommon terror, and the principal cause of the extreme public and private distress, was the almost unparalleled diffusion of the malady, and the immense number of its subjects.

To this variety, belong those cases which, instead of apoplexy, were attacked with hemiplegia, and from this symptom were termed *hemiplegic.* In some cases, the affection of the brain was slighter, consisting only of severe pain of the head, with mild delirium, and moderate sleep, which were relieved by the critical sweat, and entirely ceased during the apyroxia.

Under the *cephalic* variety must be classed those cases which were called *phrenitic*, as they very exactly counterfeited phrenitis, where there was not the slightest reason to suspect cephalitis. With the access of the fever there appeared symptoms very exactly resembling a true and idiopathic phrenitis, such as piercing head-ache, delirium frequently furious, though sometimes mild, fierce aspect of the eyes, respiration slow and with a kind of puff.* As the fever declined, in those patients who survived, they became soporose, were very forgetful, and had great hebetude of mind, which latter affections continued in some for several months. In this variety, were frequently observed hemorrhages from the nostrils, which, when slight, produced no good effect, and when they were free, extremely exhausted the vital powers. A peculiar debility of sight, sometimes of one eye, at others of both, being a kind of *amblyopia amaurotica*, was very frequent in the convalescents from this variety, and continued for months. Some rather rare cases, of which I personally witnessed but one example, belong to the cephalic variety; these were the *extatic*, and were attended with a singular exaltation of mind. [*Morbid clearness of intellect.*] My patient composed and recited verses with great facility, which were tolerable, though not perfect, and much better than he could have made in health, as he was illiterate and of a low class in society. After the paroxysm, during the intermission, he had no recollection of what he had composed in his delirium.

CHAPTER VII.

Syncoptic, edamptic, and aphonic, paludal fever.—In the debilitated, the young, and the hysterical, our disease assumed several different forms, which I shall denominate the *syncoptic*, the *eclamptic* and the *aphonic* varieties. True apoplexy differs from the syncope chiefly in the following particulars. In the former, the vital and animal functions are suppressed, while in syncope, all the functions are in a degree suspended. In the same manner, the syncoptic variety differs from that sub-variety of the cephalic, which we denominated apoplectic.

* It has fallen to the lot of the translator to have seen a few cases of this breathing. It is through the mouth, and resembles that of a person blowing out tobacco smoke.—*Trans.*

The real disease was so masked, that had not the general character of the epidemic thrown some light upon it, as well as the means by which it was necessarily treated, the state of the pulse would by no means have shown that fever existed.

I saw a very extreme case of this kind in a female, who appeared to lie in a perfect syncope for fifteen hours, and was recalled to life by excitants; she was restored to health by cinchona. There was a complete amaurosis, such as is described in a preceding chapter, which gradually yielded.

The *eclamptic* and *aphonic* varieties, except the symptoms indicated by their names, had nothing peculiar which has not been noticed in the preceding remarks.

CHAPTER VIII.

Protracted and typhoid paludal fever.—We have already stated, that all the varieties of our fever, when they were not suddenly fatal, if they were left to themselves, or were improperly treated, and sometimes without any fault in the practice, were liable to be converted into a peculiar typhus, a slow nervous fever, sometimes modified by the genius of the epidemic, so as to resemble a true hectic. Occasionally it took on this form from the first, if the patient was but slightly affected with the miasmatic *afflatus*, especially if he was young and robust, and refused to confine himself to his bed; for by this means he so restrained the perspiration, that the paludal miasm could not be rejected by a crisis of sweating, and the disease became protracted.* The tertian type became more and more indistinct, as the disease assumed a hectic form, or rather a chronic state, in which all the original symptoms of it still appeared in a light degree. The bilious variety was the most liable to run into this typhoid form, and was almost always attended with anxiety at the stomach. The pulse became quick, hard, small, and frequent, and the remissions, which were obscure at first, soon ceased altogether. There was a dry heat, especially in the palms of the hands and the soles of the feet, with a dry, rough, yellow skin, and a senile flaccidity of the flesh, and also so great debility as to confine the patient to his bed. Upon any motion of the body, or pressure at the cardiac region, or putting the body in an erect position, the anxiety was increased, and fainting supervened. There was a dry cough, especially at night, which interrupted the sleep, sometimes with a stitch in the side resembling pleuri-

* It seems by this and a few other passages, that the doctrine of *morbific matter* is not yet entirely obsolete in Germany. *Trans.*

sy, and often a profuse puriform expectoration, with nocturnal, viscid, colliquative sweats, with the odour peculiar to this disease. If the patient was not timely succoured, he usually was destroyed by a universal anasarca, which sometimes supervened suddenly, though he occasionally failed under an extreme emaciation, and a collapse of the vital powers.

Our first variety, *simple paludal fever*, was also liable to be protracted, and to assume a typhoid form; but in this state it was the least liable of all the varieties to be fatal. Though many of these protracted cases exhibited all the symptoms of genuine phthisis, they required a very different method of treatment. The colliquative sweats appeared to be a kind of protracted crisis, so that after them, some remission of the symptoms was observed; and no patient, who had not these sweats, recovered.

CHAPTER IX.

General treatment of the epidemic.—Lest we tire the reader by too much repetition, we shall state the general practice which is applicable in common to each variety of our epidemic. The disease, in all its forms, was so entirely under the dominion of the prevailing constitution, that with the exception of the peculiar treatment which was required, to combat some particular symptoms, the outline of the practice was the same in nearly every case.

There were three indications, of which the first and the one of the highest importance was, *as far as possible to sustain the vital powers*. The malignant principle of our epidemic, conspiring with the common causes of similar diseases, directly attacked the fountain of vitality, and was to be expelled only with the greatest effort, by means of *alexipharmics*. In the severer cases every secondary indication was to be neglected till this particular point had been gained,—a remission of the fever by sweat, and a lateritious deposit in the urine. In the milder cases, the stronger stimulants were borne remarkably well, while in the severer there was scarcely any error except from timidity, desperate remedies being commonly demanded in desperate cases. More failed in our disease from omission, than from the opposite. This was natural, since the exciting method, so indispensable in this disease, (on account of the preceding mild epidemic constitution, as well as the stigma that had been cast upon Brunonian practice,) with many physicians had fallen into disuse. Nor must we omit to mention, that the character of the disease changed very much in its progress, so that a practice that had succeeded in the beginning, became less and less proper; and a contrary plan was necessary to be adopted, even by those who had been the

most averse to it. All the remedies were from the diaphoretic class, that they might produce an intermission of the fever, and a crisis, by dissipating the miasm through the pores of the skin. According to the period and violence of the epidemic, various remedies were proper. In the beginning, while the disease appeared under the form of a regular tertian, many cases were treated successfully with infusion of valerian and chamomile, with sp. Midereri and sp. nitri dulcis, while those at that time which were attended with cholera, easily yielded to the lighter infusions of peppermint, with the neutral mixture, a little laudanum *pro re nata*, being administered. As the epidemic grew more severe, we proceeded to the use of the infusion of the flowers of arnica, with liq. c. c. succinat. and liq. anodyn. min. Hofm. Afterwards we added serpentar. Virgin. which seemed to be nearly a specific, and in the praise of which I would remark, that if in our epidemic we were confined to two remedies, to the exclusion of all others, they should be *serpentaria* and the *sulphate of quinine.*

A second indication, and as indispensable as the first, was, as soon as the slightest remission could be perceived, *to check the fever by means of cinchona.* Nothing was more fatal, particularly at the acme of the epidemic, than the *expectant* method, by which many timid physicians, from their fears of the bark, lost numbers of patients. The true practice, the propriety of which all now acknowledge, was not known and adopted by many physicians, till being daily warned by the mortality of the citizens, they were forced to have recourse to it. Nor is it to be concealed, as we before hinted, that the epidemic had changed its character. The synochal constitution had prevailed the last ten years, and the diseases had, in general, easily yielded to the antiphlogistic treatment; it was, therefore, very difficult for physicians to conceive, how the constitution should become so suddenly reversed.

I cannot sufficiently extol that divine remedy, the sulphate of quinine, the efficacy of which was so certain in restraining the paroxysms of the fever, that as soon as it could be exhibited in sufficient quantity, I was sure of the safety of the patient. The very few cases that I lost, appeared to prove fatal from no other reason, than that a suitable quantity of quinine had not been administered. This remedy was so potent in all cases, when exhibited at proper times and in proper doses, as not only to prove its character as a *febrifuge*, but to have just claims to the title of a *specific* in septic, miasmatic diseases. After the slighest truce had been gained by the remedies mentioned under our first indication, the sulphate of quinine was to be employed, without

the least delay, in such doses as to suspend the future paroxysms, or so to break the force of them that the disease should assume the form of a simple tertian. In the latter case, a grain of the article with a few grains of sugar, given every two hours, or every hour, during the apyrexia, assisted with generous wine, would soon remove the disease. There was little need of any adjuvant to this heroic course, except that in cases inclined to a diarrhœa, that were not of the cephalic species, laudanum increased its efficacy.* It may be noticed here, that in many cases of the disease, the *pulvis aromaticus* of the Hanover pharmacopœia, (composed of cinnamom. ℥ij. sem. cardamom. minor. zingiber. piper. alb. aa ℥j.) in the quantity of three or four grains, was very often a useful addition to each dose of sulphate of quinine. Of some other remedies for preventing relapse and removing the symptoms, that were observed occasionally to succeed the disease, we shall speak hereafter. The third indication is, *to remove the symptoms peculiar to each variety.* And here it must be recollected, that they all partook so strongly of the *general epidemic character*, that the greatest caution was necessary, in order to meet them with such practice as was not incompatible with the general indications. The greatest difficulty existed when inflammation was superadded to the other symptoms.

CHAPTER X.

Treatment of simple paludal fever.—In the *simple paludal fever*, in order to obviate the debility which was greater than ordinary, and to prevent its degenerating into a severer variety, or its becoming continued, it was necessary to restrain it, as soon as possible, by sulphate of quinine. During the epidemic, these tertians had such a degree of malignancy, that if there was much delay, the most intractable symptoms were liable to supervene.

CHAPTER XI.

Treatment of bilious paludal fever.—We have before shown, that the bilious symptoms of this variety were the consequence, and not the cause of the fever. It may be confidently asserted, that bilious vomiting in this disease, was, of itself, of no more consequence, than the same symptom is in sea-sickness. However, this bilious symptom so much resembling an idiopathic cholera, was of so much importance as to require considerable attention. The neutral mixture and Seltzer water often restrained the vomiting and purging. When this symptom had been neg-

* Neither Sydenham, nor his commentator Rush, were afraid to use opium in *atonic* affections of the brain. See Rush's Sydenham. *Trans.*

lected, the tongue became sordid, black, and cracked, or dry and red. If the vomiting and dejections became urgent, we prescribed a mixture of tincture of cinnamon and laudanum equal parts, every half hour, in a decoction of oatmeal combined with claret wine, to which we added aromatic and spirituous fomentation with laudanum to the abdomen, applied hot, till the emesis and diarrhœa were suspended. Upon this, we immediately had recourse to the infusion of serpentaria, which the stomach would previously have rejected, and for the most part a critical sweat was soon produced. Other practitioners often employed with success, the compound emulsion of almonds of the Hanover pharmacopœia. (*R.* Amygdal. dulc. ℥ss. sem. hyosciam. ʒj. fiat cum aq. ceras. nig. ℥viij. emulsio. Colat. add. Sacch. alb. ʒvi. magnesiæ ust. ʒj.)

After the febrile heat had been diminished by the critical sweat, we administered immediately and boldly the sulphate of quinine, combined with a little of the aromatic powder and laudanum, so that the ensuing paroxysm was suspended, or was so slight as to be easily managed. However much the tongue might have been previously loaded, after the exhibition of the sulphate of quinine, I *always* observed it to become soon pliable, soft, moist, and clean. The patient being by these means snatched from death, the decoction of cinchona, with cinnamon water and the syrup of diacodium, was prescribed to prevent a relapse, or the sulphate of quinine was continued, which latter article is the most certain of any in preventing a recurrence of the paroxysm. The same kind of diet, which we had been in the habit of prescribing in intermittents, was the most salutary in the several varieties of our epidemic. Farinaceous, or fat, or acid food, or milk, was to be avoided; while the broth of lean flesh, or the flesh itself roasted, seasoned with pepper and other aromatics, with generous claret, or port wine, usually agreed best with the stomach.

CHAPTER XII.

Treatment of cephalic paludal fever.—The most fatal variety of our disease was the *soporose*, *comatose*, *lethargic*, *carotic*, or *apoplectic*. According to the intensity of the cephalic symptoms, divers methods were employed, among which large blisters to the nape of the neck, with strong sinapisms to the legs and soles of the feet are the most effectual in soporose affections of the brain, and cannot be too highly commended.* From

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the nature of our disease, it is evident, that we ought to employ those remedies which are serviceable in a *paralysis of the brain*, carefully avoiding those means which are highly proper in a *sanguineous* apoplexy. The strong infusion of serpentaria and the flowers of arnica, with the succinated liquor of hartshorn and the etherial tincture of valerian, should be administered without delay, while a blister is applied to the neck and to each leg. If the patient continues lethargic, an acrid enema should be administered, and we must have recourse to the *spiritus oleosus volatilis*, or to the *ol. animal. Dippelli naphta vitriol. solut.* as our last resort. When the patient begins to be a little roused, without any delay we must give the strongest doses of the sulphate of quinine at short intervals, so as to prevent, if possible, another paroxysm with certain death. When as before observed, the coma did not entirely cease during the apyrexia, and the disease continued to resemble an idiopathic affection, it was necessary to continue the attempt at rousing the brain by the most potent nervines. In great hebetude of mind, and in unconsciousness of the external things that were passing, applying externally a strong infusion of aromatics and acrid articles in spirit of wine, or the aqua Anhaltina of the Hanover pharmacopœia. [Which is a distilled spirit from the strongest aromatics infused in alcohol, together with oil of turpentine.] In those convalescents who were affected with amaurosis, electricity was generally of great utility.

The cases which resembled phrenitis, on account of seeming contra-indications, were very dangerous and difficult to treat. Those antiphlogistic and debilitating remedies, which are so necessary in an idiopathic inflammation of the brain, from the nature of the disease, and experience, it is evident, were to be employed, if at all, with the greatest caution. As before stated, hæmorrhage from the nose was never observed to be critical; and the same was the fact with leeches and calomel, which in the beginning were employed by some timid and cautious practitioners, who at that time adhered to their ancient practice. So great was the effect of blisters to the back of the neck, that some of the lighter cases were entirely relieved by them. Cold fomentations of water alone, or of that in which salt had been dissolved, were often very serviceable when applied to the head and frequently renewed, the body and extremities at the same time being kept warm. The internal remedies, as in some of the former varieties, were infusions of arnica and sanguinaria, and pediluvia, strong sinapisms, and emollient enemata

were also proper. As has been so often repeated, sulphate of quinine completed the cure.

CHAPTER XIII.

Treatment of syncoptic, eclamptic, and aphonic paludal fever.—There are few things to be said concerning the treatment of these three which have not been anticipated in the preceding chapters. The *syncoptic* in common with the *apoplectic* variety has the same oppression of the vital principle, and requires the same remedies of the exciting class of nervines, to which should be added the strongest errhines prepared from the caustic liquor of ammonia, or from concentrated vinegar. I will just mention two cases of *eclamptic* paludal fever, in one of which there occurred *a hundred epileptic fits*, before I was called to visit the patient. Seeing death staring me in the face, we immediately administered the strongest antispasmodic powders (moschi gr. iv. flor. zinc. gr. j. sacch. alb. ℈ss.) every hour, by which the horrid convulsions were so happily overcome, that we were enabled to employ the sulphate of quinine, and contrary to our expectations, to restore the patient to perfect health.

CHAPTER IV.

Treatment of protracted paludal fever.—The protracted, typhoid, paludal fever had the same character with the other varieties, whether it assumed this form at first, or supervened upon either of the other kinds. When the miasmatic influence was slight, it was a *febricula*, sometimes scarcely affecting any part of the system directly, except the abdominal viscera, as appeared by anorexia, dyspepsia, tympanitis, and even vomiting. The bilious variety, when there was an imperfect crisis, naturally ended in this slow fever. Hence it is easily understood, that a perfect and salutary crisis could be only expected from those exciting remedies, which produce perspiration without exhausting the system. The concentrated infusion of serpentaria, with anodyne mineral liquor of Hoffman, were most certain to have this effect. When this variety assumed the tertian form, the sulphate of quinine did not answer so well as the concentrated decoction of cinchona, with aromatic tincture and the mineral anodyne. When, as was frequently the case, there was want of appetite with nausea and flatulence, acrid medicines, such as capsicum in conjunction with bitters, were preferable to cinchona. The powers of capsicum to check the vomiting of yellow fever, have been observed by authors, and its tendency to prevent relapses in our epidemic was greater than even that of the Peruvian bark. Further, when the disease was *suddenly*

changed from its *more acute* forms to a continued nervous fever, as soon as the slightest remission could be gained, recourse was to be had to cinchona.

Having closed our remarks concerning the treatment of the several varieties, it remains to make a few observations upon *anasarca*, which, with the pneumatosis of the abdomen and tumour of the spleen, was liable to follow every variety of the fever, and particularly the protracted cases. And here, those who imagine that they can remove it safely by deobstruent remedies, and diuretics, such as digitalis, while the paludal miasm is retained, will find themselves sorely disappointed in the attempt. This dropsy, with the tumour of the spleen, was most readily removed by those *acrid* remedies which I have before mentioned, or by cinchona conjoined with acrids, as Huxham's tincture of the bark, assisted by wine of ipecacuanha, which practice is much celebrated by Jahn. I will here insert the formula, which, unless the case is complicated with ascites, I have found to be almost a specific.

R. Vini ipecacuanhi,	- - -	ʒss.
Tinct. cinchon. comp. Hux.	-	ʒvj.
M. capiat quater de die guttas	-	xl—lx ex vino.

To conclude. It is hoped that the learned will not reject this essay on account of its imperfections. Expecting that more will be written upon the subject, we close our work, leaving the deficiencies to be supplied by some abler pen.

ART. III.—*A Dissertation on the question, "Whether the veins perform the function of absorption?"* By SAMUEL A. CARTWRIGHT, M. D. of Natchez.

[A gold medal was awarded to this dissertation, August 7th, 1826, by the Boylston Medical Committee* of Harvard University.]

N. B. The dissertation has since been revised and corrected by the author.

CONTENTS.

Why this question cannot be answered by experiments on living animals—CAPILLARY ATTRACTION the source of much error in the doctrine of absorption and the venous circulation—The doctrines of Magendie, and the ancients, founded on the supposed physical property of capillary tubes for imbibing fluids—Bichat and others substitute for it a hypothetical vital property.

Original views, showing that capillary attraction is not a law of matter, but an hypothesis, and has no existence in nature—The phenomena which have been attributed to it, found to depend on a loss of balance in atmospheric pressure—Facts and experiments in support of this position.

The veins, lymphatics, and lacteals found to possess no physical or vital power, in consequence of the smallness of their calibres.

Armstrong's views of the venous circulation, the lymph and the chyle—Similar to those first proposed by Harvey—Only half of Harvey's theory of the circulation noticed until lately—Why Harvey abandoned his views of the venous circulation.

Dilatation of the heart produces a loss of balance in atmospheric pressure—This becomes the power which gives motion to the venous blood, the lymph and the chyle—Arterial blood propelled by the heart no further than the capillaries.

Objections to the doctrine shown to be proofs in its support—Why the blood swells in veins when tied—Anatomy of the valves—Causes of a plenum of blood in a tied vein—Why blood will not flow from a vein full of blood when the arteries are tied—Magendie's experiments disprove his own doctrine, also that of Chapman, and others—and go far to establish the doctrine of a loss of balance in atmospheric pressure.

* The committee do not consider themselves as bound to approve all the various doctrines contained in the dissertations to which they award premiums—nor could this be expected.

Original views of the circulation of the blood through the vena portæ—Anatomy of the parts concerned in it—Space between the hepatica vena portæ, and its sheath—Effects of this anatomical arrangement—found to draw the blood from the abdominal portion of the portal vein, by producing a loss of balance in the pressure of the atmosphere—Circulation of the portal blood assisted by the action of the diaphragm—Contraction of the diaphragm drives the blood towards the heart—Circulation of the blood in the fœtus—Why the liver of the fœtus so large—What Mr. Hunter attributes to inspiration, and Dr. Barry to the *resilience* of the lungs, found to depend on the contraction of the diaphragm.

Causes of the emptiness of the arteries and the fullness of the veins after death—why exceptions to this.

Why air injected into a portal vein not fatal—why fatal when injected into the other veins.

Absorption owing to the suction power of the heart, which it derives from a loss of balance in atmospheric pressure—This suction power extended to the orifices of the veins, lymphatics, and lacteals. The liver and diaphragm auxiliary powers—Question answered in the affirmative—Conclusion.

DISSERTATION, &c.

BEFORE this question can be satisfactorily answered, it will be necessary to inquire into those laws of the animal œconomy by which the chyle, lymph, and venous blood circulate in their respective vessels.

This inquiry, if successfully conducted, will at once explain the process of absorption, and answer a question, which has so long occupied the attention of physiologists;—a question which has Haller and all the great physiologists who preceded him, as Rhuysch, Boerhaave, Swammerdam, &c. on the affirmative, and the Hunters, Hawson, Cruikshank, and some others on the negative.

Professor Flandrin of Alzant, having repeated some of the principal experiments of Mr. John Hunter—the first who positively denied the existence of venous absorption—has arrived at a very different conclusion from the same experiments.

The experiments of Hunter, Flandrin, Meyer, Ribes, Magendie, Brodie, and numerous others, being attended with apparently contradictory results, have induced some late physiologists to adopt a new doctrine, or rather to revive an old one, in order to reconcile the diversity of opinion on the subject of venous absorption.

Dr. Fohman, of Heidelberg, having discovered, as he thought,

a communication in some animals between the lymphatics of the intestines and the mesentery, and Mr. Abernethy having made an injection pass from the vasa efferentia of a lymphatic gland into a vein, appear to have afforded the principal additional facts on which the doctrine alluded to is founded.

Dr. Alard, who supports this doctrine, contends that the small arteries have minute vessels arising from them, conveying different fluids according to the modification of their vital properties. These arterial appendages have, he supposes, minute corresponding vessels, which arise from the surfaces of the great cavities and the intimate texture of the organs; further, that these vessels, thus spread throughout the system, unite in some instances, into long continuous canals denominated lymphatic vessels; but in other instances, are inserted at once into the smaller branches of veins. The experiments of Tiedemann and Gmelin will in some measure support the views of Dr. Alard, which, however, are not new;—for Cruikshank long ago insisted, that "lymphatic absorbents entered as fully into the tunics of veins and arteries as into any other part of the animal frame." Hence, if this doctrine be correct, Magendie's experiments do not free the subject of venous absorption from all doubt and uncertainty. For the experiment which seemed so conclusively to prove that the veins do absorb, viz. when the thigh of a dog was separated from all connexion with the body, except by the crural artery and vein—quills introduced into these vessels, and their coats divided, is still unsatisfactory; although poison inserted into the foot produced its fatal effects in the ordinary time, four minutes: because the poisoning in this case took place, according to Dr. Alard, not by its direct absorption by the veins, but from its having been conveyed into these vessels by the lymphatics, which it is contended open in many places directly into the minute venous branches. Unable, therefore, to come at any conclusion perfectly satisfactory, by experiments on living animals, in order to ascertain what vessels do, and what do not absorb, let us first inquire into the laws which regulate the absorption of the various fluids of the human system, and that convey them, together with the venous blood, to the right auricle of the heart. The difficulty of accounting for the circulation of the blood in the veins, and of the chyle and lymph in the absorbent vessels, has been acknowledged by all physiologists. Bichat observes, that "there are numerous researches to be made on the motion of the blood in the veins. Notwithstanding all that authors have written upon this subject, there is an obscurity in it in which we perceive but few rays of light." When treating of the absorbent system,

he says, " that we never will," he thinks, " be able to say precisely, how an absorbent orifice being immersed in a fluid, takes it up, seizes its particles, and makes them ascend in its tube." After acknowledging, " that we know not the laws of this motion,"—that of fluids in the absorbents—he affirms, " that the vessels derive this faculty from the vital forces which they have." An error in physics, which for ages has been considered as an established law of matter, has been introduced into physiology to explain the phenomena of absorption, and has brought with it a cloud of confusion, which has greatly tended to darken the subject it was intended to elucidate—I allude to *capillary attraction,* a well known phenomenon—but which, so far as my information goes, has never been heretofore correctly accounted for. In consequence of fluids rising in small tubes in an inverse ratio to the diameter of their calibres, it has been supposed, that there was a distinct and independent attractive power exerted by the tube on the fluid in which it was immersed. This supposition, unproved, was received by the physiologists as an established law of matter, of which they availed themselves in the explanation of the circulation of the fluids in the capillary vessels of the human system. M. Magendie, after numerous experiments on absorption, has come to the conclusion that it is nothing more than *capillary attraction. (Journal de Physiol. Experiment No.* 1.) He says, " it appears to me, *beyond doubt,* that all the blood-vessels, venous and arterial, whether dead or living, small or great, present in their parietes a physical property calculated to account for the principal phenomena of absorption. To affirm that this property is alone able to produce all the phenomena of absorption, would be to go beyond what is warranted by a correct logic; but in the present state of fact on the subject, I know not any thing which weakens the inference which I have drawn, but many which may be adduced in its support."

M. Segalas also acknowledges the influence of capillary attraction in producing absorption, and M. Fodera, from his experiments, concludes that absorption depends on the capillarity of the tissues, or in other words, on the attraction supposed to exist between the capillary vessels and their fluids. The error of introducing a hypothetical power into physiology, and locating it in the small vessels called capillary, I have no doubt, from the following expression of Bichat, darkened the mind of that great man on a subject which would otherwise have been the most plain. " Since the principle of motion," he observes, " of the venous blood is generally spread throughout the whole general capillary system, instead of being concentrated, like that

of the arteries, in a single organ, it is evident that this motion cannot be uniform, that it must vary according to the state of the capillary system in the different parts," &c. Every one knows that Bichat believed that when the blood arrived in the capillary system, it was beyond the influence of the vis a tergo of the heart. Yet he considered that the principle of motion of the venous blood was spread throughout the capillary system. Although he would not admit this principle of motion, or agent of impulse of the venous blood, was derived from the physical property supposed to be possessed by capillary tubes of attracting fluids, yet he substituted for this imaginary physical property, a vital property, equally hypothetical with the physical one which suggested it. I say hypothetical—for if the fluids of the whole system have their agent of impulse in an *insensible* action of the capillary vessels, what proof is there of that action which is *insensible*, and how could an insensible action produce a sensible and rapid motion of the whole circulating fluids of the system?

Bichat, Richerand, and others, by locating in each capillary vessel an invisible and hypothetical agent of impulse, differ from Magendie and the older physiologists only in name. The former call their agent of impulse *vital;* the latter physical. Both admit the thing—an invisible, unknown, attractive power resident in the capillary vessels—called capillary attraction by one, and vital power by the other.

The hypothetical physical power of capillary tubes for imbibing fluids, introduced into physiology by the ancients to account for absorption, which Dr. Good has acknowledged to have "something extremely plausible in it," (see Proem to Class Eccritica,) and which in modern times has positively led astray Magendie, Fodera, Segalas, after having previously caused Bichat, Richerand and others to adopt in its stead, and to locate in the same vessels, an imaginary vital property, I proceed now to investigate; and by exposing a false principle in physics, seemingly of little importance, I hope to divest physiology of numerous errors, and thereby be enabled to give a satisfactory solution to the question, "Whether the veins perform the function of absorption?"

I had long suspected that capillary attraction depended on atmospheric pressure, and not on a separate and independent attraction of solids for fluids. I was led to this opinion by reflecting on the great elasticity and levity of atmospheric air, and its tendency to rebound from those small foramina, into which a fluid of greater gravity and less elasticity would force itself.

Thus liquids will pass through substances which air will not,

Liquids also will not rise so high in dry capillary tubes, as when the air is displaced from their calibres by immersing them in water. If therefore the rise of waters in a capillary tube depended on any specific and independent attraction of the solid for the fluid, I could see no reason why a *wet* tube should attract water so much more above its level than a *dry* one. But on the principles of atmospheric pressure it could be readily accounted for, in the following manner: "The air consists of particles which repel each other with forces which are inversely as the distances between their centres." They also repel other substances, otherwise the atmosphere could not be elastic. In proof of this position—the elasticity of the air may be increased by a condenser, until it will force water out of a tube, or even mercury. The particles of air, therefore, repel other substances, and as it were, avoid contact with them. A solid substance does not recede from this repulsion, but the particles of air recede from the solid. The latter is immovable, the former are light and elastic, and are prevented from coming in contact with the solid by their repulsive power or elastic spring.

Hence it is evident, that there must be a *small space* or *partial vacuum*, always existing, between the surfaces of solid and dense bodies and that of the atmosphere which surrounds them. Therefore, a tube of small diameter does not contain a column of air of *equal* diameter; for this would suppose a direct contact of the air with the whole inner surface of the tube. But the air, from its levity and elasticity, not being able to force itself in immediate contact with the tube's inner surface, the column of air contained in the tube must of necessity be something less in diameter, than the calibre of the tube. This produces an inequality or loss of balance between the pressure downward through the tube, and that of the surrounding pressure. Hence, when it is immersed in water, the atmospheric pressure being somewhat less on the surface of the water within the tube, than that on the fluid without, an elevation of water in the tube is the consequence. When, however, the inner surface of the tube is moistened by previous immersion in water, the calibre of the tube is *diminished* by the water that adheres around its inner surface—a part of the air it before contained is expelled—the atmospheric pressure within its bore is less than in the dry tube, and consequently water will rise in it to a greater height. It is owing to the above-mentioned space or partial vacuum, which exists between the surface of bodies and the particles of the atmosphere, that liquids ascend on the side of a vertical plane of glass, or any other solid substance, somewhat above the level of the surrounding liquid in which it is immersed. Liquids being denser, heavi-

er and less elastic, than atmospheric air, approximate more nearly to the surface of bodies than air, a light elastic fluid. It is this partial vacuum which surrounds all bodies, that causes them to attract one another when brought near enough to be within the sphere of its influence. Thus drops of water will adhere to an inverted or perpendicular plate of metal or glass; a glass bubble floating on water, will move to the side of the vessel, &c. Such phenomena have been attributed to the attraction of cohesion, but they meet a more ready explanation on the principle of atmospheric pressure. When cohesive attraction is used to denote any thing more than that the particles of matter are held together, or exist in a state of aggregation or cohesion, it is extended beyond the bounds of truth. For even the spherical form which a drop of water assumes, I should sooner attribute to the atmosphere which presses in all directions, than to any especial attraction. Professor Musschenbroek found that the adhesion of polished planes of brass, two inches diameter, heated in boiling water, and smeared with hot oil, required a force of eight hundred pounds to separate them. A variety of such experiments are adduced by him, to prove the great power and activity of cohesive attraction, all of which, however, go directly to prove, that the resistance to be overcome was not owing to any kind of attraction, but to the weight of the atmosphere. The air presses in all directions, and it is evident, that if it be excluded from one side of a plane of brass, or any other body, by its close contact with another, that a considerable force will be required to separate them. To illustrate the preceding views more fully as regards *capillary* attraction, I adduce the following experiments, which, I hope, will be entirely sufficient to establish the doctrine I have advanced, and to show the fallacy of a long received principle in physics, the introduction of which into physiology has been the foundation of numerous errors, that have greatly tended to impede the progress of that interesting and highly useful science.

A late eminent writer of the British metropolis, Dr. Paris, in his Med. Chem. has affirmed, that "to the physiologist, capillary attraction is a phenomenon of *very great importance*, for on its *power* depends chiefly the functions of the excretory vascular system in plants and animals." I hope, therefore, to be excused, for dwelling some little in detail, on the process of the *non-existence* of the supposed power, called capillary attraction —a power to which Dr. Paris attaches such great importance, which Professor Leslie estimates to be of sufficient force to elevate the human fluids in the lymphatic vessels ten feet in height, and finally, a power which enters so largely in the physiological

disquisitions of M. Magendie, and many other eminent physiologists of Europe.

Experiment 1*st*. A curved capillary tube, in which water would rise half an inch, had one of its ends immersed in a glass of water, and the other end placed in an empty vessel. When the upper part of the curvature was half an inch or more above the water, none dropped from the end of the tube in the empty vessel. But when the upper part of the curvature was depressed *less* than half an inch above the water, the tube, after a certain time, began to convey the water into the empty vessel; and so continued, until the water in both vessels was exactly on a level.

Experiment 2*d*. One leg of the above curved tube was cut off something less than half an inch from the apex of its curvature, and the longer leg immersed in water. When the extremity of the short leg was the least above the surface of the water containing the long leg, the water would not drop from the short leg: when the end of the latter was exactly on a level with the surface of the water, a drop was suspended on the extremity of the short leg, but would not fall, until the extremity of this leg was depressed *below* the surface of the water in which the other extremity was immersed. From these experiments it is manifest, that if the water had been raised in the above tube half an inch, by some especial attractive power, independent of atmospheric pressure, that the power which thus raised it, should have conveyed the water through the short leg of the tube, somewhat above the level of the fluid in which the other extremity was immersed. But the water could not be conveyed above its level. Therefore, to suppose the existence of such a *power* would be to suppose the existence of a power inert and inactive, a true *vis inertiæ*. If capillary tubes have a peculiar attractive power for liquids, it would be an easy matter to elevate water to any given height above its level, by a series of curved capillary tubes. Tubes in which water would rise one inch ought, if bent, to transmit that fluid at least half an inch above its level; if one end of such tubes were cut off within that distance from the apex of their curvatures. A series of them, if any such power as capillary attraction existed, could be made to convey water to any given height. But capillary tubes like the syphon cannot be made to convey water from one vessel to another, above its level. The elevation of water in capillary tubes must, therefore, depend on atmospheric pressure,—the pressure within the tube being less than the pressure on a surface of the same diameter without the tube; because the atmosphere, a light, elastic body, cannot force

itself in juxta position with the inner surface of the tube. Hence, an inequality or loss of balance between the pressure within and that without the tube; and hence the natural effect of this loss of balance in the atmospheric pressure, would be an elevation of water in the tube—a phenomenon heretofore attributed to an imaginary attractive power.

In the curved capillary tube, (experiment 2d,) the same inequality of pressure, which elevated the water in the longer leg, suspended it in the shorter one; for the atmosphere presses upwards as well as downwards. Thus the water, being suspended by the partial vacuum in the tube, was prevented from falling out of the shorter leg, until the extremity of the latter was brought somewhat below the surface of the fluid in which the other end was immersed. For this reason the water could not be conveyed from one vessel to another, above its level.

The following experiment affords the most conclusive proof, not only that the phenomenon termed capillary attraction depends on atmospheric pressure, but that the rise of water in capillary tubes is not owing "to the attraction of the ring of glass contiguous to the upper surface of the fluid;"* nor as Dr. Hamilton (in his lectures) supposes, to the annulus lying just within the orifice of the tube; nor the immediate attraction of the glass; nor to the attraction of matter for matter; (a theory advanced by Parkinson in his Hydrostatics, and since adopted by Dr. Good in his Book of Nature.)

Experiment 3d. One end of a curved capillary tube was passed through a stopper, and inserted into a vial filled with water; the stopper was so secured in the mouth of the vial as to exclude atmospheric pressure. No water would drop from the tube; although the distance from the surface of the water in the vial to the upper part of the curvature of the tube was much less, than the height to which the water would rise in the tube, when immersed in the vial before it was stopped. As soon as the atmospheric pressure was admitted to the liquid in the vial, the water began to drop from the leg of the tube without the vial; and would immediately cease to drop, so soon as the vial was again stopped and filled with water. The experiment was varied. The leg of the tube, without the vial, was plugged, while the water was dropping from it. The vial was filled and stopped as before. Both the tube and the vial were now full. The plug was cautiously taken out of the tube, but no water would drop from it. When the stopper of the vial was removed, the water began immediately to drop from the tube.

The vial and tube were again filled as before, and set under the receiver of an air-pump. On working the air-pump, the extremity of the tube, without the vial, became emptied of water, but the tube would not continue to drop until the atmospheric air was admitted into the vial. This, by the way, supports the position I assumed, that liquids are suspended in capillary tubes by the upper pressure of the atmosphere, and the partial vacuum in the tubes themselves. In this case, as soon as the upward pressure was diminished, by exhausting the receiver, the water fell out of the tube which suspended it under the ordinary pressure. It likewise proves that capillary attraction will not take place in vacuo—but more of this hereafter. A syphon will not convey water from one vessel to another, if atmospheric pressure be excluded from the fluid into which one end of it is immersed; and from the above experiment, neither will a capillary tube. If it would be absurd to attribute the elevation of liquids in a syphon, and its power to convey them from one vessel into another, to the attraction of the ring contiguous to the *upper* or to the *under* surface of the fluid, or to an imaginary attraction of solids for fluids, or of matter for matter, equally so would it be, to attribute the elevation of liquids in capillary tubes to any one of these supposed causes. The above experiment proves that none of the hypothetical powers, to which capillary attraction has heretofore been attributed, will produce that phenomenon when atmospheric pressure is entirely excluded. Both the curved capillary tube and the syphon are governed by the same laws, produce the same phenomena, which must depend on the same cause—a loss of balance in atmospheric pressure.

Experiment 4th. A straight capillary tube was passed through a stopper and one end inserted into a vial filled with water. The vial was stopped so as to exclude the pressure of the atmosphere. The water did not rise in the tube above the level of the water in the vial. The heat from the hand, however, would cause the water to rise in the tube, but it would immediately sink down in the tube when the vial was immersed in cold water.

Experiment 5th. A capillary tube, the one tenth of an inch diameter, was fitted to a tube, an inch and a half in diameter: on immersing the wide tube in water down to its union with the small tube, and raising it up, a column of water was suspended in the wide tube of equal length of a column the small tube was capable of supporting. This experiment demonstrates the effect of unequal atmospheric pressure; a surface of water, an inch and a half diameter, is pressed upon by nothing more than a column of air, something less than the tenth of an inch diameter, and admits of being supported above the level of the surround-

ing water about an inch. Who, that will reflect, can for a moment doubt, that in this case, the column of water in the large tube is supported by unequal atmospheric pressure? Yet, in books of philosophy, we are told that the fluid (in a like experiment,) "is supported by the attraction of the narrower part of the tube."* A body of water, a foot or more in diameter, can be as easily elevated above its level, in the same manner. The most strenuous advocate for the attractive power of tubes would not, it is presumed, contend that such a large quantity of water could be suspended by the attraction of a tube, the tenth of an inch diameter. In such experiments, we see unequal atmospheric pressure acting on a large scale; in capillary tubes we see the same in miniature. For in such tubes the column of air, as before stated, contained in them, being something less in diameter, than their own diameter, an inequality of pressure is produced, and the elevation of liquids is the natural consequence.

But we are told that capillary attraction cannot be owing to atmospheric pressure, because it will take place in the exhausted receiver of an air-pump. This requires examination. Capillary tubes, placed under the receiver of an air-pump, undergo a greater degree of exhaustion than the receiver itself. For as the weight of the atmosphere becomes diminished in the receiver, by the process of exhausting the air, so does the pressure *within* the capillary tubes become diminished also. Hence the phenomenon termed capillary attraction, will take place in the receiver of an air-pump, unless a perfect vacuum could be produced, which is impossible. The smallest quantity of liquids will balance a larger quantity: so also, the smallest quantity of atmosphere, pressing unequally on a liquid, will produce an inequality of height between the surface of the liquid which sustains the greater pressure, and that which sustains the less.

In support of the above positions, the following experiment is adduced.

Experiment 6th. A capillary tube, with the upper end hermetically sealed, was placed in a tumbler of water, and set under the receiver of an air-pump. During the process of exhausting the receiver, bubbles of air were seen to pass out of the lower end of the tube, and when the process of exhausting the receiver was suspended, the water immediately rose in the tube, far above the height to which it arose in an open tube of the same calibre.† The above experiment proves that capillary

* Enfield.

† When I first made this experiment, I fell into an error by using too short a tube. After a considerable exhaustion, it so happened, that the water in the tube rose exactly on a level with the water in the tumbler. The

tubes part with the atmospheric air they contain, with much greater facility under the process of exhausting the air, than the receiver which contains them. Hence, the water rises in the tube far above its ordinary height. It is upon this principle the gaugue of an air-pump is constructed.

The reason why a liquid will not rise so high in an open tube, as in a tube with the upper end closed, when both are submitted to the exhausting process, is, that the remaining air of the receiver exerts a downward pressure through the open tube, but this pressure does not act on the closed one. That the rise of water in capillary tubes, placed under the receiver of an air-pump, is not owing to any specific attraction, is still more conclusively proved by the following experiment.

Experiment 7th. A tube was immersed in water, and when taken out was found to suspend a column of water three-fourths of an inch in length; the upper end of the tube was sealed. Another tube was immersed in water half way its whole length, and while in this situation was sealed. When taken out, a column of water was suspended in it, something more than half the length of the tube. Both tubes were now suspended in an empty vessel, and set under the receiver of an air-pump. After a certain degree of exhaustion, *the water dropped entirely out of the former*, but it required a much greater degree of exhaustion to exclude the water from the other. If an *attraction* kept the water suspended in the first tube, why should the attraction cease to operate under the exhausting process? And why should not the tube which contained the most water part with it first? It is in vain to look to *attraction* for an explanation of these phenomena. The water was suspended in the first tube by unequal atmospheric pressure, and so soon as the pressure *without* was brought on an equilibrium with that *within* the tube, having nothing now to suspend it, the water dropped out. The other tube, which contained the most water, contained of course the least air, consequently, there was a greater loss of balance between the inward and outward pressure, and hence it required a much greater degree of exhaustion to restore the equilibrium. In a third tube, with both ends open, likewise suspended in the receiver, the water contained in its lower extremity would not fall; for the plain reason, that the exhausting process exhausted the air out of the top of the tube, and hence the equilibrium between the inward and outward pressure could not be restored, as in the other tubes.

same degree of exhaustion was produced several times, and the same phenomenon occurred. This led me into erroneous conclusions when this paper was first written, which I now take pleasure in correcting.

It is the rise of liquids in capillary tubes, when placed under a partially exhausted receiver, that has kept philosophers for so many ages in the dark respecting the true cause of capillary attraction. But we have seen that the same cause, which produces this phenomenon in the open air, produces it in the receiver of an air-pump,—viz. unequal atmospheric pressure. From this cause, liquids rise on the outside of solids a little above the surrounding liquid, and ascend in capillary tubes above the level of the surrounding fluid. Hence, the heights to which a liquid rises in capillary tubes are inversely as the diameter of their bores; and between planes of metal or glass inversely as their distances apart.

That the atmosphere is partially excluded from the calibres of small tubes, and that this exclusion becomes greater in degree, in proportion to the smallness of their bores, is further proved by the following experiment.

Experiment 8th. "If a small quantity of water be put into a capillary tube, which is of a conical form, and laid in a horizontal situation, the water will run towards the narrower end."*

Whatever be the cause, such is the fact, that the atmosphere does not approximate so directly in contact with solid bodies, as do fluids of greater gravity and less elasticity; nor does it force itself so readily into small cavities and the pores of bodies. For this reason, liquids will rise in porous substances, as well as in capillary tubes, but cannot be made to pass from one vessel to another, above their level.

A long series of experiments, a very few of which I have detailed, because I deem that few sufficient, have convinced me that liquids do not rise in the pump and syphon by one law, and in porous bodies and capillary tubes by another; but that one and the same law produces the whole of these phenomena—a loss of balance in atmospheric pressure: a doctrine which comports with the simplicity of Nature, and which now stands opposed to a hypothetical attraction, which, for more than a thousand years, has encumbered philosophy, and been a stumbling-block in physiology.

Having proved by experiment, that the phenomenon called capillary attraction does not depend on a separate and independent attractive power, but on atmospheric pressure, it will readily be perceived, how erroneous must be the doctrine of MM. Magendie, Segalas, and Fodera, who have come to the conclusion, that absorption is nothing more than capillary attraction, which takes place when tubes of small calibres are immersed in fluids.

* Enfield.

It is true, the two latter do not admit that absorption depends entirely on the supposed attraction; but by bringing in this relic of speculative philosophy to account, even in part, for the process of absorption, is to encumber that process, itself simple, with a fallacious auxiliary power, that cannot tend but to render it complex and obscure. To substitute, as Bichat and others have done, for this supposed physical power, a vital one, to locate it in the same vessels, and to invest it with the same properties, is, in substance, nothing more than the same erroneous doctrine under a different name. Each supposes a propelling, forcing, or attractive power, but neither proves its existence. Both doctrines are founded on supposition, and both, therefore, erroneous.

The physical power, which small tubes have heretofore been supposed to possess of attracting fluids in an inverse ratio to their diameters, having been proved by experiments to have no existence; the veins, lymphatics, and chyliferous vessels, so far as regards this imaginary power, will be placed on the same footing. Even the minute, pellucid vessels which Dr. Alard, and before him Cruickshank, supposed in some instances to be immediately inserted into smaller veins, while in others, they go to form the lymphatic vessels, will be found to possess no greater physical property of absorption, in consequence of the smallness of their calibres, than the largest vessels of the system.

We must look then for some other explanation of the process of absorption, and for other laws than imaginary ones, which move the chyle, lymph, and venous blood towards the heart.

Anatomy informs us that none of the vessels which circulate the above fluids, are so formed as to impel forwards their respective fluids by the action and reaction of their own coats. The absorption of fluids, and their circulation towards the heart, must therefore depend on some other cause, which we now proceed to inquire into.

The contraction of the ventricles of the heart, although a phenomenon, the result of a vital cause, is admitted by all to produce an effect purely physical—viz. to force the blood into the arterial system. This has been admitted ever since the time of Harvey. But another physical effect not less real, not less powerful than that produced by the contraction of the heart, has been until lately almost entirely overlooked—I allude to the physical effect produced by the dilatation of the heart. Bichat, from experiments, found that the force which dilated the heart was equal to that which contracted it. That a vacuum is produced during the dilatation of the heart is just as plain a fact, as

that the contraction of the heart gives an impetus to the blood; and that the vacuum thus produced, by producing a loss of balance in atmospheric pressure, would have a tendency to draw all the fluids, both of the venous, chyliferous, and lymphatic systems towards the heart, and cause these vessels to absorb or imbibe their respective fluids, is no less a necessary physical effect, than that the contraction of the heart should give an impetus to the blood. Even to admit that the arterial and venous parietes assisted in the circulation of the blood, still if the heart's contraction assists in the circulation of the arterial blood, its dilatation, which is equal to its contraction, both in extent and force, must render a no less powerful assistance in the circulation of the lymph, chyle, and venous blood. Dr. Armstrong, however, was too close an observer of nature to permit himself to be led astray by the hypothetical power of capillary attraction, which had been introduced into physiology; although not aware that it had no existence in nature, he came to the conclusion, that "the common theories respecting the circulation of the lymph and chyle were most vague and unsatisfactory."— Much of the phenomena of the circulation had been attributed to the forcing power of the heart, and some physiologists had even gone so far, as to suppose that the blood circulated both in the arteries and veins by the forcing power or contraction of the heart; but this would not account for the circulation of the lymph and chyle. Armstrong at length concluded, that "the blood in the veins of the general system, and in those of the lungs, is circulated by the dilatation of each ventricle, and by the pressure of the atmosphere upon the veins;" and further, that "the circulation of the lymph and chyle is carried on, not by any species of capillary action or of contractility alone, but principally, if not entirely, by the dilatation of the right ventricle of the heart, and by the pressure of the atmosphere." Dr. Good* has given to Sir Wilson Philip the credit of being the founder of the above doctrine, and observes, that "Carson of Liverpool taking advantage of Sir Wilson's hints, has constructed a simple and beautiful theory of the projectile powers employed in the circulation." In this Dr. Good is mistaken. He has given to Sir Wilson Philip the credit which truly belongs to the immortal Harvey. It was Harvey himself, who first compared the heart to a forcing and suction pump.† So soon as Harvey's

* Study of Med. vol. 2. Proem to class Hematica.

† Harvey at first did not admit that there was any direct communication between the arteries and the veins, but contended that the blood was forced into the capillary vessels by the forcing power of the heart, and brought back by its suction power. He reluctantly, however, relinquished this opi-

theory of the circulation began to attract the attention of the world, the mechanical physiologists immediately set to work to calculate the forcing power arising from the heart's contraction; and finding it, as they thought, entirely sufficient of itself for the return of the blood to the heart, as well as its expulsion from it, they totally lost sight of the effect produced by the dilatation of the heart,—viz. its suction power. Until lately, only the half of Harvey's beautiful theory has been received—viz. the philosophy of the arterial circulation. The admission of that half has already cleared the science of medicine from the rubbish of numerous hypotheses, which greatly tended to confuse and enfeeble the mind in the search of truth. The admission of the other half—the philosophy of the venous circulation —will, I have no doubt, abolish many more hypothetical doctrines, and enlighten the paths of research, both in physiology and pathology.

Had Bichat's mind not been bewildered by the imaginary propelling power supposed to be resident in capillary vessels, it is not probable, that he would have located "the principle of the motion of the venous blood in the whole general capillary system," but would have been led to consider, that, like that of the arterial blood, its principle of motion was concentrated in the heart: that the forcing power of the ventricle was the principle which moved the latter, and the suction power the former. Although Bichat has overlooked the influence of the suction power of the heart on the circulation, yet he has limited very correctly its forcing power to the termination of the arterial system. Armstrong, however, extended this power into the venous system, as if the suction power, which bears an exact relation to the forcing power, were not of itself sufficient to circulate the venous blood. I would almost as soon believe that the laws of gravity would elevate a heavy body, as that the same power which drives the blood through the crural artery drives it through the crural vein. In support of his position, "whenever," says Armstrong, "the heart's action is increased, there the current of blood from a punctured vein is increased, and when the action has been very excessive, I have known the blood to come out in jets." To which it may be replied, that wherever the arterial circulation is increased by the contraction of the heart, the venous circulation must necessarily be increased

nion in consequence of his opponents having proved a direct passage from the arteries into the veins by anastamoses, and afterwards admitted the doctrine of the *vis a tergo* in its full extent. But this admission was evidently made to conciliate his enemies, and obviate some objections of the mechanical philosophers to his theory of the circulation.

by the dilatation of the heart. So where the heart's action is excessive, its suction power, produced by its dilatation, must also be excessive, and hence the blood from a vein whose contents are acted on by an increased suction power, will sometimes be seen to flow from a vein in jets.

The arterial blood has its principle of motion in the contraction of the heart; the venous blood, the lymph, and chyle have theirs,—the comparative vacuum produced by the dilatation of the heart. The one cannot be increased or diminished without a corresponding increase or diminution of the other. Hence the congestions which take place when any causes diminish the force of the former, and the absolute necessity of reaction for their removal. I agree entirely with Armstrong, "that a more minute attention to the venous and lymphatic circulation would open out many new and interesting views, both in regard to physiology and pathology."

But objections have been made of late to that part of the philosophy of the circulation which attributes the motion of the venous blood, the lymph, and chyle, to a comparative vacuum and the surrounding atmospheric pressure. It has been asked, if this doctrine be true, how can the blood, lymph and chyle raise and distend their respective vessels after they have been tied? Why do the veins of the arm become distended below a ligature? and why does the blood spout out with considerable force when a vein is opened in the common operation of phlebotomy?

The veins are very dilatable to a certain extent, and they all have valves, excepting the smaller veins, those of the lungs and brain, and those of the viscera of the abdomen. Valves exist also in the thoracic duct, and they are exceedingly numerous in the lymphatics. The valves are most numerous in those veins most liable to compression. "Each valve consists in general of two semilunar membranes, the blood running back catches the margin of the valve, and throws it down." (Bell.) The refluent blood presses the valves into the form of a saculated membrane, closes completely the canal of the vein, interrupts the continuity of the column of blood returning to the heart, and distends the dilatable parietes of the vein. "A ligature," says Mr. Bell, "high on the arm or thigh, *shows the veins* in their distinct and natural character, and *causes* the sinuses of the valves to rise, *shewing the places of the valves.*"

Now, when a ligature is passed round a vein, lymphatic vessel, or the thoracic duct, the power which moves the fluids of these vessels towards the heart immediately ceases to operate.

If, for instance, it be a vein which is tied, there is an immediate reflux of the venous blood. The valves below the ligature are instantly drawn down by the refluent blood which presses on them from above, the canal of the vein is blocked up at each valve, the vein itself is distended by the valves supporting the refluent blood, a vacuum is formed below and around the pyriform valves, and the blood below immediately rises and fills the distended vein. This is not an hypothesis, but a fair induction from anatomical structure and the laws of matter. The reflux of blood in the larger veins so perplexed the ancients, that they compared the motion of the blood to the waves of Euripus, which the poets feigned to be uncertain in their course, and to move in contrary directions. A puncture being now made into a vein thus distended, the blood flows out with a force equal to that which causes it to rise in the vein, and as it continues to flow, so does the blood *a tergo* rise to supply its place. Hence a constant *plenum* is preserved in the vein.

Whenever the vein ceases to be supplied with blood by the arteries, the flow of blood from the orifice will cease, *but the vein will continue to preserve its plenum, i. e. will continue to be distended with blood.* What I have just said, is incontestably proved by actual experiments, made on living animals by M. Magendie. These experiments have been repeated and confirmed by Dr. Cross.* In one of the experiments a ligature was firmly tied round the thigh of a dog including its whole substance, except the crural artery. An opening was made into the vein previously secured by a ligature above. The blood flowed out in a stream—The artery was now compressed so as to prevent the blood from reaching the membrane—The jet of blood became less and less, and in a few instants stopped entirely, leaving the vein throughout its whole length *full* of blood—The compression was removed from the artery—The blood recommenced flowing from the vein, and ceased when the compression was renewed. The artery was now examined, and found to be empty, but the vein was nevertheless full. This experiment, with others of a similar nature,† has been brought forward to prove that the motion of the venous blood depends on the vis a tergo of the heart. But this, with the other experiments of Magendie and Cross, afford positive evidence against the doctrine of the vis a tergo, and establish, I think beyond a doubt, that the motion of the venous blood depends on atmospheric pressure. For if the motion of the venous blood was

* See Medical Recorder, vol. ix.

† Ibid. vol. ix.—also Magendie's Physiology.

produced by the vis a tergo of the heart, *the blood could not be forced up into the veins so as to make a plenum there after the arteries were firmly tied.* If the motion of the venous blood were owing to the contraction of the veins themselves, as Dr. Chapman and others suppose, this contraction would certainly *empty* a vein through an orifice, after a ligature has secured the veins and arteries of the whole member. But if the motion of the venous blood be owing to atmospheric pressure, or as I would rather say, to a loss of balance in atmospheric pressure, it is evident, that after the vein ceased to be supplied with blood, that the blood could not continue to flow from the orifice without producing a vacuum in the vein; consequently, the atmospheric pressure could not force it out, because the resistance to the formation of a vacuum being in direct ratio to the force of atmospheric pressure, there is a complete balance of powers; and therefore the plenum of the vein is sustained. But if the vein be supplied with blood, water, or any other liquid, (as proved by the experiment alluded to,) this resistance to a vacuum will cease to operate, and the blood, &c. will flow from the orifice. In proof of what I have just said, let a capillary tube be immersed in water its whole length, and in this situation its upper orifice stopped. When taken out, it will be found to suspend a column of water its whole length. This column is prevented from falling out of its lower orifice, which is open, by the resistance to the formation of a vacuum. Nor can the air rush into the lower orifice, because there is a *plenum* in the tube. So also the air cannot enter in at the orifice made by a lancet in a vein, because there is a plenum there, as in the tube.

I now proceed to a subject intimately connected with the above doctrine—a subject which Armstrong has passed over in silence, which physiologists both ancient and modern, so far as I am acquainted, have been unable to explain, which Bichat has pronounced obscure, and acknowledged, "that every judicious mind, in reading what has been written upon it, must perceive that there is a great void"—I allude to the motion of the black abdominal blood, viz. that of the vena portæ.—On this unexplored subject, Anatomy shall be my pioneer.

The branches, smaller branches, and ramifications of the hepatic portion of the vena portæ have no anastomoses, which are found to abound in the abdominal portion of this singular vein. Both the hepatic and abdominal portions appear to be uniform in their structure. "The hepatic portion is every where accompanied by a kind of membrane which appears to be cellular, but whose nature is not yet well known, and which is called the

capsule of Glisson. This capsule, intimately connected with the substance of the liver, adheres more loosely to the veins; so that, when they are empty, there is often a *space* between them and it; it is this that makes them fold up when we cut the liver in slices." "I think," continues Bichat, "that we are entirely ignorant of this anatomical arrangement."* It should be recollected that the liver exhibits a firm and unyielding texture to the action of the diaphragm. During inspiration, the curved fibres of the diaphragm are straightened by the contraction of that muscle, which descends towards the abdomen, thrusts forward the abdominal parietes, and compresses the hollow viscera. During expiration, on the contrary, the diaphragm becomes relaxed and rises.—It is evident, that as the liver presents, unlike the hollow viscera, "a texture firm and unyielding," and as there is a *space* existing between the hepatic portion of the vena portæ and its sheath, the capsule of Glisson, which accompanies this vein throughout its distribution in the liver, that there would be a comparative vacuum formed in the space existing between the vein and its sheath, which intimately adheres to the liver—more especially if the vein were empty of blood. This would undoubtedly produce a loss of balance in atmospheric pressure, and the blood would in consequence thereof, flow up from the abdominal portion of the vein into the hepatic portion, to restore an equilibrium. This it would the more readily do, when to atmospheric pressure, there is united that muscular pressure on the hollow viscera, produced by the descent of the diaphragm in inspiration. The hepatic portion of the vena portæ fold up when the liver is cut, in consequence of being emptied of blood, and thereby produce a greater or less space between Glisson's capsule and their own external parietes. In proportion as their internal parietes approximate, so do their external parietes recede from Glisson's capsule and form a space, the capacity of which will correspond to this approximation. Let us suppose the vena portæ to be distended with blood, and part of this blood to be exhausted in the formation of bile, and the other by the absorption of the hepatic veins with which the portal vein communicates. In this case the parietes of the hepatic portion of the vena portæ would approximate as when cut, and by their approximation a vacuum would be formed between their external parietes and the capsule of Glisson. The vacuum, thus formed would undoubtedly have a tendency to draw towards it the blood in the abdominal extremities of the portal vein. But the truth is, that during a healthy state of the system, that the

* Bichat, Anat. Gen. vol. ii.

tendency to a vacuum produced by the escape of the portal blood from its vessels, both by the secretion of bile and the absorption of the hepatic veins, constantly draws forward the blood from the abdominal vena portæ, and thus preserves a plenum in the hepatic vena portæ—a plenum always found to exist in post mortem examinations. The circulation of the blood through the liver is greatly facilitated, as before observed, by the pressure of the diaphragm on the abdominal viscera during inspiration. The viscera from which the abdominal portion of the portal vein arises, being generally hollow and more compressible than the viscus in which it terminates, yield to the diaphragmatic pressure, and the blood is thus greatly assisted in moving forwards through the less compressible liver. The frequent anastomoses in the abdominal portion of this system, further tends to favour such motion. It is remarkable, that the vena portæ originate only from those viscera which are immediately under the direct compression of the diaphragm during inspiration. For the kidneys, the glandulæ renales, the ureters and organs of generation, and even the compressing bodies themselves, the diaphragm and abdominal parietes, do not return their blood into the portal system as do all those viscera, which are compressed by the diaphragm.

In the fœtus in utero, the above-mentioned anatomical arrangement of the hepatic portion of the portal vein with the capsule of Glisson constitutes one of the principal agents in the fœtal circulation. All the fœtal blood passes through the liver, excepting that portion which is conveyed to the hepatic vein just as it enters the cava by the ductus venosus. So there passes through the liver of the fœtus, not only the blood from the splenic, mesenteric, hemorrhoidal veins, &c. which constitute the abdominal portion of the portal vein, but also a considerable share of the blood from the umbilical vein. The left side of the liver being supplied from the latter source, and the right side from the former. The umbilical vein in the liver of the fœtus, constitutes the left branch of the portal vein in the adult. In order that so large a quantity of blood may move through the liver on the principles above explained, we can readily perceive the absolute necessity of the immense comparative size of this viscus in the fœtus. Besides, in the fœtus there is no auxiliary muscular pressure from the action of the diaphragm; nor is there any *resilience* of the lungs. I mention the resilience of the lungs because I have understood that a Dr. Barry of England, now at Paris, has attributed the motion of the venous blood to a vacuum produced in the chest by the resilience of the lungs. I have not seen Dr. Barry's work, for I live on

the confines of the medical world, and it is some time before new publications reach me. That the resilience of the lungs draws the blood to the heart is not a new observation. Mr. John Hunter* has stated, that "during inspiration, (i. e. during the resilience of the lungs,) the veins readily empty themselves, but in expiration there is a degree of stagnation." Bichat has observed the same fact. The doctrine I have advanced will show its cause. For during the resilience of the lungs, the chest is expanded, the diaphragm descends, thrusts forward the viscera, and by the pressure thus produced, aids the external atmospheric pressure in moving forward the black abdominal blood. Hence the rush of blood towards the heart is not owing to the resilience of the lungs, nor, as Mr. Hunter supposed, to inspiration, but to the contraction and pressure of the diaphragm. The resilience of the lungs has therefore nothing to do with the circulation of the venous blood—nor is it owing to this cause that the heart dilates but to its own vitality. That this resilience may have some influence in distending the vessels of the lungs with blood after death, and in keeping the heart dilated after vitality has ceased, or even in facilitating the passage of the blood through the pulmonary vessels during life, I will not question; but further it can have no influence whatever, that I can in any way conceive.

The doctrine which maintains, that the motion of the venous blood, the lymph, and the chyle depends on a loss of balance in atmospheric pressure, aided by the muscular pressure of the diaphragm, will readily explain why, after death, the right side of the heart and the great vessels leading to it contain a large majority of the blood of the whole system, while the arteries contain little or none. For the comparative vacuum formed in the heart still continues to draw towards it the blood, after that organ has lost the power of contraction. To this, however, there is an exception, viz. when that muscle is at once deprived of its tone, by lightning, or any such cause. In this case the heart collapses, its physical attractive power is destroyed, and the arteries, as well as the veins, contain their proportionate quantity of blood. Dr. Ker, of Aberdeen, in consequence of the vacuity of the arteries after death, has gone so far as to deny the circulating system of Harvey altogether, and to attempt, which amounted to nothing but an attempt, to revive the doctrine of the ancients. This objection of Dr. Ker is the same which the contemporaries of Harvey made to the doctrine of the circulation, and which he endeavoured to obviate by supposing

* Hunter on the Blood.

that the heart continued to contract for some time after death. But the comparative vacuum formed in the heart by its systole, that in the liver by the anatomical arrangement of the vena portæ, and the dilatation of the pulmonary vessels by the resilience of the lungs, are sufficient physical forces to drain the arterial system of its blood, after the laws of vitality had ceased to operate. The amount of blood in the left auricle and ventricle will depend on the manner in which death takes place, whether by the heart or lungs, or both.

Why the injection of air into the portal veins is not attended with the same fatal consequences, as in those veins leading directly to the heart, has long been a wonder to physiologists. MM. Magendie and Bichat both tried the experiment, and found it to be true, but neither could give any rational explanation of it. Air injected into a vein, leading directly to the heart, destroys the comparative vacuum in the ventricles, restores an equilibrium of pressure, and hence there exists no longer a loss of balance in atmospheric pressure, to move onward the venous blood. But if the air be injected into the portal vein, it produces no such fatal consequences, because it cannot arrive at the heart. The case of a young woman operated upon by M. Dupuytren, where the introduction of air into the heart, by the jugular vein, produced instant death, is already before the public, and not only proves, as far as any one case can prove, that the blood of the venous system owes its motion to a loss of balance in atmospheric pressure, but proves that the principal vacuum which produces this loss of balance in the atmospheric pressure, is in the ventricles of the heart. For on dissection, the air which had rushed in through the vein, was found there.

I have thus inquired into the laws which regulate the absorption of the various fluids of the system, and which convey them back to the heart. They have been found to be of two classes. The one vital, the other physical. The former is known only by its effects: the latter is found to depend on anatomical arrangements evident to the senses. Vitality contracts and dilates the heart; physical effects are produced by this contraction and dilatation: vitality contracts the diaphragm, physical effects are produced from this contraction. By the laws of vitality the heart is put in motion, and by laws purely physical the blood is driven to every tissue of the human system. By the laws of vitality the heart dilates, and by laws purely physical the blood again returns to it. Each tissue and organ is constantly supplied with blood; which after being submitted to the vital processes of secretion, nutrition, &c. the remaining effete blood, together with the lymph and chyle, being no longer necessary to the organ, is removed to

subserve other purposes. Physical laws bring the supply, and physical laws effect the removal. The heart is the chief organ that puts these laws into operation. This it effects by its own vital powers, its contraction giving an impulse, its dilatation producing a suction.

Now absorption is nothing more nor less than this suction power of the heart extended to the venous radicles, the lymphatics and the lacteals. All these vessels absorb, in consequence of the absorbing or suction power of the heart, into which they ultimately open.

Let it not be said that this doctrine of absorption, and of the circulation of the venous and portal blood, is made to depend too much on mechanical means, and on physical laws. MM. Magendie, Fodera, Segalas, and others, by calling in the aid of a supposed capillary attraction, to account for absorption and the venous circulation, have encumbered the physiology of the human system with as many mechanical means and physical powers as there are capillary vessels. I have endeavoured to prove, that from certain peculiar anatomical arrangements, there necessarily results an inequilibrium or loss of balance in atmospheric pressure, which becomes the great physical power that causes the veins, lymphatics, and lacteals to take up, imbibe, or absorb their respective fluids, and move them onwards to the heart.

This doctrine does not subtract aught from the known laws of vitality. It is not a device to explain away the vital operations, by mechanical or chemical laws, and to make man an automaton. But it simply brings forward a physical law, universal as gravity itself, to explain certain phenomena of the human system, which the ingenuity of man has never been able satisfactorily to account for, by any known vital power whatever, or even by any imaginary power. If physical causes are to be altogether shut out from physiology, let those who exclude them, show to what vital cause the weight of an animated being is owing. As gravity is a physical cause, it must, on the grounds they have assumed, be excluded.

The same physical power, a loss of balance in atmospheric pressure, which removes from each tissue and organ the materials which have been operated upon by the vital forces, elevates liquids in capillary tubes, causes the sap to rise in vegetables, and the tides to swell the ocean. In this, as in other instances, we see Nature, from unity of cause, producing multiplicity of effect by plurality of means.

If the question now be asked, "Whether the veins perform the function of absorption?" the answer is plain:—They do perform that function. The veins, lymphatics, and lacteals all

absorb, and their respective fluids receive their motion, not from any hypothetical power resident in the coats of these vessels, whether vital or physical, (a power in either case inexplicable and unique in its character,) but from the well known power which results from an inequilibrium or loss of balance in atmospheric pressure. As an effect of this inequilibrium or loss of balance, the heart, the veins, lymphatics, and lacteals are endowed with a suction power, which enables them to absorb and give motion to the various fluids of every tissue and organ.

Bichat has expressed his doubts, whether we ever would be able, "to say precisely how an absorbent orifice, being immersed in a fluid, takes it up, seizes its particles, and makes them ascend in its tube." I hope we are now able to say precisely, that it is owing to a suction power of those orifices, derived from the suction of the heart during its dilatation, to which may be added, the comparative vacuum that is formed by the peculiar anatomical arrangement of the hepatic portion of the portal vein, aided by the pressure of the diaphragm during inspiration, not, as has been supposed, to vital forces, or to a hypothetical capillary attraction. The fact is, that the fertile imagination of Bichat was unable to conceive of a vital power, or combination of vital powers, which could be assigned as a satisfactory explanation to his own mind of a phenomenon which is so obviously the result of a physical cause.

In conclusion, I will observe, that Drs. Lawrence and Coates found by experiments, that substances taken into the stomach reached the circulation by three channels, one being the œsophageal veins. But I deem it unnecessary to bring forward experiments made by variously torturing living animals, to say whether the veins absorb; a question which only requires of us to look to the anatomy of the human system after death—to observe its phenomena while living—to admit into our reasonings known physical and vital causes—to exclude all those which are hypothetical, whether physical or vital. Capillary attraction is among the hypothetical, together with that insensible vital action of the membranous parietes of the veins, lymphatics, and lacteals, which has been supposed to produce a sensible and rapid motion of more than twenty-eight pounds of fluids.

ART. IV. *A Dissertation on the Pathology of the Bones, with illustrative cases, among others, a case of the removal of carious ribs.* By WILLIAM A. M'DOWELL, M. D. of Fincastle, Virginia.

THERE are few subjects connected with surgery, or I believe I might say with the healing art, of the same importance, that have been so much neglected as the pathology of the bones. Diseases of the bones are the most frequent in surgery, they are the most tedious, the most insidious, and the most loathsome: such considerations, we would suppose, should render a correct idea of their pathology matter of primary importance. But the fact is otherwise; though various diseases of those important supports are of daily occurrence to the surgeon, his treatment generally consists in little else than naming them, and when christened, they are committed to the management of Nature; or, on many occasions, by external emollient applications, relaxation or disease of the investing soft parts is added to the original malady.

The frequent occurrence of diseased bones early attracted my attention to their management; on consulting a variety of works, with a view to elicit information, I met with such contrariety of opinions with regard to the causes, progress, and treatment of their diseases, that I was left unrequited and bewildered.

There exists so great a diversity even as to names, and the distinctions of such diseases, that the practitioner is at a loss what name to give such cases as occur to himself; nor can he, in a great majority of them, adopt any appellation that will not be in opposition to some high authority: but his comfort may be, that he is countenanced by others equally imposing.

Only in one thing can any general accordance be discovered, which is, to leave diseases of the bones, of whatever denomination, almost exclusively to the efforts of Nature: which sometimes, after a tedious interval of loathsome, and occasionally painful endurance, results in restoration; but more frequently, in the necessity of amputating a limb, or in death.

The unsatisfactory result of my researches, arising from the contrariety of principles, and the inefficacy of treatment on any authorized plan, induced me to investigate for myself; which investigation determined me in the adoption of pathological principles, and a mode of treatment, which I believe to be, for the most part, peculiarly my own.

It is with reluctance, and not without great diffidence of my

ability to illustrate my positions, that I array myself in opposition to the doctrines of the respected and highly authoritative names of Bell, Boyer, and others: but the higher the authority by which error is propagated, the more extensive will be the injury we may expect it to produce, and the more imperative is the duty to expose it on detection.

Urged by such considerations, I am induced to submit to the profession, the principles by which my practice is governed in the management of diseased bones, with several interesting illustrative cases. The plan of treatment alluded to, is founded on the belief that the vis vitæ of the bones is generally inadequate, unassisted, to relieve them from diseases that have destroyed any portion of their structure: and that the interference and co-operation of the surgeon is more necessary in these diseases, than almost any others that occur.

Besides the results of my own experience, many cases might be cited from the most eminent authorities in support of my views; particularly, Mr. Hey's operations on the bones of the leg, for a disease which would be denominated, according to the nosology of Baron Boyer, internal necrosis, and according to Messrs. John Bell and Samuel Cooper, "spina ventosa," but which Mr. Hey, perhaps with a view to avoid collision with any of those authorities, has introduced as a new disease, which he calls "abscess of the tibia." But none of those cases seem to have led their reporters to any more correct general conclusions; they still retained their preconceptions, that bones possessed the capacity of separating mortified portions, after the manner, and with the facility of muscular parts, without duly regarding their difference of structure.

Until such error in general principles is corrected, no extensive benefit can be derived from particular cases; for cases, whilst the surgeon yet labours under erroneous pathological views, constitute a guide to him only on the recurrence of a disease, a fac simile of the case successfully treated; cases are but facts, and special facts are so limited, that to render them of extensive benefit to science, they must be constituted data on which to establish correct general principles.

Well satisfied, that the pathological views of our most celebrated authors on diseases of the bones are incorrect, I shall, in the succeeding pages, from such facts as have occurred to myself, and from such as I have gleaned from others, endeavour to demonstrate such general methods of treating those diseases, as seems to me to constitute an improvement in this branch of surgery.

In my detail of cases, some of which possess no novelty but the pathological views on which they were conducted, and which they are supposed to substantiate, as much brevity as consists with a correct idea of the situation of the patient, and the nature of the case, has been studied.

Physiology and pathology of the bones.—For the particular physiology of the bones, the reader is referred to works on that subject; it is sufficient here to observe, that all the bones have, like the soft parts, their arteries, veins, absorbents, and nerves. The blood-vessels destined for the nourishment of the external lamellæ, are supplied principally from the periosteum; those destined for their interior structure, generally enter near the middle of the long bones, and are distributed up and down in minute ramifications, throughout their cancelli or diploe.

The bones are endued with so little feeling, that they are almost insensible to impressions, even of burning or decay; except when under some extraordinary excitement,* as from cold, &c. as is familiarly exemplified in carious teeth. Hence, a bone may sometimes be utterly destroyed, before it is discovered to be diseased. In the succeeding observations, to keep clear of ill-defined distinctions, I shall use the term necrosis for dead bone, from whatever cause arising; distinguishing affections of the lamellæ from those of the cancelli by the terms external and internal, conceiving, with Mr. Cooper and other good authority, that caries is of the same character with necrosis, and that it is necrosis of a smaller portion of a bone, (and that its extension throughout the entire bone constitutes complete necrosis,) that term will imply so much when hereafter used.

Necrosis proceeds from various causes, constitutional and casual. When arising from casualty, it generally proceeds either from denudation of the bone, from external violence, or from long continued application of cold, interrupting the internal structure. When the periosteum is by violence detached from the bone it invests, a clot of effused blood is interposed, which if not speedily absorbed (which it generally is) presently brings on necrosis or caries of that part of the bone on which it lies, by *cutting off its requisite supply of blood.* In this, let it be understood, I conceive a marked difference to exist between the pathology of the bones, and of the soft parts. The interruption of one or

* John Bell says, "no pains are equal to those of the bones and joints," but in his Principles of Surgery, he states one case, which, on good data, he concludes originated in an injury inflicted on the bone, ten years before disease was manifested; during all which time, it had progressed with little or no pain. On dissection, it was found much bone had been destroyed. He also reports several other cases, less remarkable, but to the same purport.

more of the smaller vessels conveying blood to soft parts, or even of very large vessels, is easily and speedily amended, by dilatation of inosculating vessels: but in the bones, though their vessels too, have their inosculations, yet those inosculating vessels cannot dilate with the same facility, nor to such extent, owing to the unyielding calibre of the long canals, through which they are transmitted.

Baron Boyer supposes necrosis from violence arises only from blows, or from pressure of sufficient force to depress some of the lamellæ, or otherwise directly injuring the tissue of the bone: but Mr. John Bell states many well authenticated cases of necrosis, from violence so slight as not to interrupt continuity of the soft parts; some cases, even arising from forcibly pulling the hair of the head, in which cases, we cannot conceive the cause adequate to have produced the effect, in any other way, than by interrupting the necessary supply of blood to the bone beneath.

A clot of blood, remaining a length of time, produces necrosis of a scale of the lamellæ on which it lay, which excites the surrounding structure to the formation of pus, as a medium of separation between the living and the dead bone; or, the clot of itself producing irritation foreign to the nature of the part, may excite to the formation of pus. This fluid accumulating, either bursts through the periosteum and integuments and is discharged, or encountering a firm resistance from the periosteum, (which is often the case,) attains the necessary space for its increased bulk, by extending the separation between the bone and its periosteum, sometimes entirely denuding it, and thus effecting its complete necrosis. This is what I would term external necrosis, and unless the pus is evacuated and allowed a free vent, it becomes the cause of the extension of the disease from bone to bone, until sometimes many bones are affected, as in the following case.

I visited James Summerfield, of Newcastle, aged 23, in autumn, 1822, afflicted with what he termed white swelling. He believed the disease to have originated from a scuffle, in which his thigh had been hurt, two years before. In addition to a very small sinus, four or five inches above the knee, an abscess was pointing in the groin, which I opened. After evacuating the pus, injected fluids readily passed from one opening to the other; the whole femoris appeared to be denuded. This was the first case of the kind of importance, that had occurred in my practice; conceiving it a hopeless one, I ordered the best authorized treatment:—he lived upwards of two years afterwards.

No callus was deposited, nor was there any tendency to amendment discovered during that time. Before he died, suppu-

ration had extended to the foot, and a sinus had formed over the posterior spinal process of the os ilium.

As external necrosis is of most frequent occurrence, and consequently, most important to be well understood, we will first take a view of the changes the appearance of the bone undergoes, and the requisite treatment adapted to the changes of this particular form of the disease.

"The colour of a living bone," says Fallopius, "is white, delicately tinged with red; that of a dead bone, unmixed white; that of a putrid or carious bone, livid or black." Living bone is also distinguished from dead, by freely bleeding when scraped, and, where only a small plate of lamellæ is carious, the sound bone around the plate is slightly elevated, or swelled, and bleeds particularly free; easily marking the line of distinction.

When from denudation the external lamellæ of a bone is found necrosing, and we have reason to believe its internal structure is sound, we should use every effort to re-animate, or resuscitate (if I may use the phrase,) the necrosing portion.

1st. By making a free incision through the integuments, at the most depending part to which pus has attained, and another, at the upper, or at that part, on which the injury was inflicted, with a view to discharge the pus, and stop the extension of the disease.

2d. By exciting the exterior of the bone and the interior of the periosteum, by stimulating washes; by passing setons, when the parts will admit it, from a superior to an inferior opening, along the bone; and by compression from without, with a roller, or with the laced stocking.

The beneficial effects of this plan were strikingly exhibited in the following case.

Tom, a negro boy, the property of Mrs. Rowland, aged ten years, jumping from the top of a fence, fell, and struck the tibia against a rail that lay on the ground. A small tumour arose, which at the time was but little regarded; about fourteen days afterwards, general swelling of the leg commenced, attended with severe pain; the swelling soon became most where the original injury was inflicted, at which point, his attending physician, Dr. S. O. Caruthers, made a small opening with a lancet, from which there was a free discharge of pus. But the swelling below still extended towards the foot, and he daily grew worse. Hectic fever supervened, with colliquative sweats and diarrhœa: those symptoms were combated with the ordinary remedies; nevertheless, his danger became so imminent, that I was called in to amputate the leg, and visited him with that view on the 22d November, 1825. On enlarging the small issue already

made, between the tibia and tibialis anticus, to a size that admitted the introduction of the finger, both the tibia and fibula were found denuded as far as they could be examined, and appeared dead, exhibiting the white graveyard appearance. In conference with Dr. C., on representing the success of my restorative endeavours in cases I conceived to have been of similar character, we concluded to delay amputation and make a trial of the kind. With such views, a large knitting-needle (having no probe of sufficient length,) was introduced at the opening above named, and passed down along the naked tibia, passing between the two bones, and was cut out posterior to them, between the malleolus externus and the tendo Achillis; believing this to be the most depending situation to which pus had arrived. A stout skein of thread was passed, from one opening to the other, and the roller was applied from the toes to the knee. I never visited him afterwards, but was informed by Dr. C. that the fever and constitutional symptoms, after this operation, quickly yielded to the same remedies they had baffled before, and that his recovery was rapid and complete.

By those means, much may be done, if resorted to in time; nor should such treatment be omitted, within any given time, unless the bone were found livid or black; in which event, the dead bone should be removed, or the limb amputated: but the former I should generally prefer, *even if it were the whole femoris*, for then, nothing short of amputation at the hip could be substituted. Here my conclusions may be deemed hasty, inasmuch as the fact is well established, that such dead bones have actually been found inclosed in newly generated callus. Such pathological information, I deem serviceable only as affording the assurance, that a speedy renewal of displaced bone, in a young subject of good constitution, may confidently be expected if unimpeded, which should admonish the surgeon, that, in aid of nature, he should endeavour to remove all obstacles and impediments to her process.

No where have I ever met with the history of the life, or cause of the death of any one, in whom such phenomena as inclosed bones have been discovered, hence my conclusion is, that those bones probably introduced their natural proprietors into the dissecting room. If so, the fact affords but an indifferent reason for the surgeon leaving them unmolested.

Case.—Virginia Harvey was in the month of February 1816, at two years of age, through carelessness of her nurse, in her mother's absence, very much exposed to cold; the succeeding day she was unable to walk, complained very much of pain in the right leg, which was at first unattended with swelling or

discoloration, but in about three weeks it swelled, pointed, and was opened about midleg, and pus was discharged, with some relief from pain, but with no other amendment. About six months after this, hectic symptoms becoming urgent, a consultation of physicians was called, an incision was made, exposing the bone from within about an inch of the head of the tibia, to within the same distance of the ancle joint. The bone was denuded and black, the free evacuation of pus from this incision mitigated the hectic, and for a time relieved constitutional symptoms; but this black bone, dead and detached as it was from its periosteum, though as foreign to the surrounding parts as is the dead to the living, was, in conformity with the precepts of the best surgical authorities, left in its place, where it remained nearly six months longer, in which time it exfoliated, plate by plate, near the ancle, until the lower end was released, and projected through the integuments. In this situation it remained some time longer, and was cautiously moved a little every day by her attending physician. During all this time deep-seated abscesses, some of them very large, one after another arose on different parts of her body, inducing the apprehension that the bones *generally* were diseased. Her physician at last discovering that callus was forming behind this black bone, and that it was giving the new bone a misshape, pulled it out, and found that an entire new bone had formed behind it, which was much bent backwards a little below the knee, from pressure by the upper head of the old tibia. Thirteen days after the removal of this dead bone, the leg had completely healed, together with every abscess upon her body; and by the entire relief from hectic, which was removed with the bone, her strength had so much increased, that the little creature could not be prevented walking often around the room, aiding and supporting herself by holding to the furniture, which premature pressure increased the bend the new bone had already suffered, and caused a shortening of the leg of an inch and a half or two inches; the leg is, in other respects, equal to the other one; her constitution and general health, from that to the present time, has appeared as good as common.

The above case is given as related to me by the attending physician, Dr. Patterson, and by Miss Harvey's mother from memory; no notes having been taken of her case at the time of attendance. Dr. P. does not recollect with sufficient distinctness, to determine whether this was a case of external or internal necrosis.

If the exterior of a diseased bone is discovered to be black only in parts, every effort should be made to reanimate so much

of it as is not too decidedly carious, even though the whole bone be denuded. If in any encouraging degree successful, so soon as the lines of distinction could be designated, the carious portions should be forcibly detached, without wasting any time awaiting the dubious process of exfoliation; for, if exfoliation is desirable and useful, it is as useful if effected, as if awaited by the surgeon.

Case.—Matilda, a mulatto woman, the property of General J. Preston, aged twenty-five, was visited 26th December, 1823—she had a deep seated swelling, and pain below the middle posterior part of the thigh, which had been of several weeks' duration. Discutient liniments, blisters, mercurial plasters, and poultices were applied without effect. On the 2d January, 1824, a free incision was made, and about a pint of pus discharged from a situation much deeper than external examination had led me to expect; the bone was denuded, as far as I could examine it up and down, to the extent of eight or nine inches, the opening was sustained by tents, and a roller was applied from the toes to the hip; at each dressing, tincture of myrrh was freely injected. By the 1st of March, amendment was such that only a small denudation of bone remained, not exceeding an inch; on the 2d of April, a carious plate was forcibly detached; eight or ten days afterwards, on examination, the bone could not be reached with the probe, and on the 18th April, she was discharged cured.

No satisfactory account could be given of the origin of disease in this case.

The following case is introduced to exemplify the extreme tardiness and uncertainty of Nature's process to exfoliate necrosing bone.

Bill, a negro man, the property of Mr. S. Kennedy, suffered a compound fracture of the femoris when a boy, from the falling of a tree upon him. Re-union of the bone was tedious, and after it was completed, the opening through the integuments continued, and became fistulous; on the 9th June, 1821, I was called to examine him (eight years after he had received the fracture). The issue was situated about six inches below the trochanter major, through which the probe readily reached rough, naked bone; the muscles of the thigh and leg of the diseased limb were flaccid and shriveled, and the limb was but little more than half the size of the other; his general health was such, that he could endure no fatigue, and caused him to pass most of his time in a recumbent posture.

By the advice, and with the co-operation of Drs. Patterson

and Madison, such an incision was made as admitted free examination of the bone. A caries was discovered about an inch in diameter, rough and black; it was surrounded, and tightly embraced by the edges of the sound bone, which seemed disposed to close over it, resembling the appearance sometimes remarked in a tree, the recent growths of which are in the act of closing over a canker it has sustained from partial decortication, or from the removal of a chip.

This black scale, more than a quarter of an inch in thickness, and still very firm, was broke up from its place and removed; the sinus healed in a few weeks; the boy regained his general health; and the diseased limb, in the course of a few months, recovered the healthful appearance and the full size of its fellow.

I am well satisfied, from observation and research, that carious lamellæ left to nature, are more prone to reduplicate than to exfoliate. The very efforts of nature for self preservation in those cases, when inadequate to the purpose, expedites the devastation, for bones are not so prone to decomposition through mere loss of vitality.

They moulder in burial grounds for centuries, without assuming the black colour they so very soon acquire in necrosis. Their inert durability has rendered them the only memorials of generations of men and animals, swept from the face of the earth time out of mind.

To what then are we to ascribe their rapid decomposition in necrosis? To nought, I conceive, but the abortive efforts of Nature's process in the adjacent sound structure, to effect a release from an unnatural connexion with the dead. The inflammation and softening, preparatory to the formation of pus as a medium of separation, expedites the extension of necrosis; those softened and inflamed parts, irritated until exhausted by the protracted contact of an immovable caries, and enveloped in eroding pus,* grown acrid from age, are at last found necros-

* Whether erosion is ever produced by pus, I am aware is a controverted question; but bland and emollient as it is on its recent formation, I was satisfied, by the following case, that it sometimes becomes acrid or eroding on confinement after its formation.

John Douglas, Esq. near Pattonsburg, struck a man in the mouth, and cut his knuckle on a tooth down to the bone; the cut healed, but soon afterwards the finger swelled, and through mismanagement of a woman famed for curing swellings, it in a few months extended to the elbow, and the arm had to be amputated. I was invited by Dr. Patterson to assist him in the amputation; examination after its removal discovered the anterior muscles of the fore arm to have been completely destroyed; the skin contained the pus

ing in their turn. Hence the difficulty of arresting the progress of caries. If the process of exfoliation is depended upon, by the time the first scale is exfoliated, that part of the bone from which it has detached, has been destroyed by its own over action and over excitement, and constitutes another subject for the same process.

The fact is familiar, that if a tooth becomes affected with a carious speck, if the caries is uninterrupted, it extends to the destruction of the entire tooth; and we are also familiar with the fact, that if the speck is removed, the further progress of decay is arrested: but this is all so familiar, that we forget a tooth is bone.

I have myself seen the caries of a tooth extended to the alveolar process.

In November, 1826, I saw a negro woman, the property of Mr. J. Thompson, who had a fistulous opening from the lower jaw, opposite the root of the largest grinder; finding this tooth decayed, I extracted it; a carious portion of the alveolar process adhered to its outer root, to the extremity of which the tooth was decayed; the probe now passed through the fistulous opening into the mouth.

This opening had been of more than twelve months standing, but healed in a few weeks after the extraction of the tooth.

INTERNAL NECROSIS.

I come now to speak of a less frequent, but a more deplorable form of disease.

Necrosis of the internal structure, like external necrosis and most other diseases of the bones, is frequently of constitutional origin. In all such cases, the constitutional taint should first be attended to; then due attention should be devoted to local management, which has always been too much neglected, and to which it is the object of this communication to elicit particular attention.

This disease has its origin in the cancelli, and from the few cases that have come under my scrutiny, seems frequently to arise from cold and moisture so long endured, as thoroughly to *chill*, not only the integuments, but the bones themselves; acting perhaps by constriction of their extreme vessels, obstruct-

like a sac; the radius and ulna were entirely denuded, and of the dead white colour; the bones of the originally injured finger were livid.

I suppose those muscles to have been acted upon by the pus, for I cannot well imagine that the absorbents retained vital power enough to have effected their removal, when the organization of all the rest of the structure of the arm was destroyed.

ing the capillary circulation; or by causing the metastasis of other diseases to their cancelli.

But internal necrosis, from whatever cause arising, as a natural consequence generates the formation of pus, which generally extends the ravages of the disease through the greater portion of the internal cellular structure of the bones, before the pressure of the accumulated and accumulating volume of matter bursts its way through the external lamellæ; and until this is effected, and produces distention and pain of the soft and more sensible integuments, the patient is sometimes unaware that he is at all diseased, though, on examination, it is rendered evident that the necrosis had been of long standing.

This is the disease described by Bell and Cooper, under the name of spina ventosa; it is Boyer's internal necrosis, and abscess of the tibia of Hey.

"Spina ventosa, or scrofulous bone," says Bell, "is merely a failure of the internal circulation, a total corruption of the marrow, and a consequent loss of the medullary vessels, by which the whole bone dies, is thrown out by nature, or more frequently the limb must be cut off."

Boyer speaks of internal necrosis, as but rarely affecting the articular ends of bones; but as a highly dangerous disease when it does, and generally requiring amputation. Two of the subsequent cases were either of this dangerous kind, or what he distinguishes as caries.*

* Between caries and necrosis, Baron Boyer endeavours to delineate a marked distinction: but his diagnosis is so very indistinct, that I will not venture a positive declaration, whether the cases referred to are what he would distinguish as caries, or as internal necrosis. I do not think, in fact, he makes good any other distinction but as to extent; in speaking of caries, he represents it as a much more serious disease than necrosis. He represents it as a disease at first of limited extent; but generally of regular and destructive progress. "Nature," says he, "makes no effort to separate the affected bone, unless, perchance, the disease change to necrosis. With this single exception, the disease makes constant progress: small bones, it is true, are separated, but this separation produces no favourable change, and bears no resemblance to necrosis." I wish to avoid any thing like criticism; but I must here remark, this quotation is at least as lucid as any part of Boyer's Diagnosis—as *translated*.

Farther on he remarks, "without the aid of art, however, caries almost always proves fatal."

He recommends burning out the caries with a hot iron; assigning for this mode of eradication, the unphilosophical reason, that the heat dissipates the humours at the same time that it removes the caries. But further extracts from Boyer are unnecessary, as his works are in the hands of every surgeon. But I cannot conceive, on any physiological or pathological principles, why this barbarous and blindfold treatment with cautery, should claim any preference over removal of the caries with a saw and gouge; and dissipating

Case.—In the spring of the year 1824, Simon Stair, aged thirteen, of hale constitution, never had been sick; went with a party of boys from a brick yard in which they worked to bathe, and staid long in the cold water; shortly afterwards he complained of head-ache, and was unable to go on with his work. In a few days the head-ache ceased, and he was taken with excruciating pain at the right knee, which, with occasional intervals of ease, continued without any swelling or discolouring of the integuments, until some time in the following autumn; when a small abscess, like a common bile, appeared on the anterior surface of the tibia, about an inch and a half below the knee joint, which soon opened, and formed a sinus. After this, he suffered no pain, unless in consequence of fatigue, or from exposure to cold. When in attendance on Mr. Stairs' family in December 1825, I was requested to examine this leg, which I did carelessly and without probing, and informed the boy's father, that from the duration of the disease, I conceived there was carious bone at the bottom of the sinus, but that from its diminutive extent, the scale might soon be expected to exfoliate, and the disease would get well. Carious portions did frequently separate and pass out, but no amendment followed.

On the 6th of June 1826, Mr. Stairs again invited my attention to this leg; the sinus appeared much as formerly, but the limb was reduced one half smaller than the other, and was becoming very weak, and he grew more fastidious in his diet.

I now laid the bone bare, and made a particular examination; there was a small round hole through the lamellæ, which discovered a considerable loss of substance within.

I advised an operation to remove the caries, which, with the assistance of Drs. Foot and Caruthers, I performed on the 25th, using a common trepan, and Hey's saw to remove the lamellæ, and detaching the carious cancelli with a gouge and scraper; the caries extended so near the joint, that a discharge of synovia followed its detachment, and its continuing to discharge afterwards, proved a serious impediment to the healing of the wound. Inflammation, however, being suppressed by blood-letting and the antiphlogistic regimen, the wound healed, and the limb had recovered the full size and strength of its fellow in six months.

the "humours" with a sponge. Boyer indeed relates a case himself, which he denominates caries of the sternum, wherein he effected a cure by removing the caries with a chisel and saw; but never seems to have inferred, that like treatment would answer in like diseases of other bones.

He in fact apologises for not using the cautery in such cases, by adverting to the importance of contained parts.

Case.—William Camper, a remarkably healthy, active boy, nine years old, much addicted to mischief, often, when engaged in sports, subjecting himself to long endurance of severe cold, was, on the 28th of August, 1826, suddenly attacked with severe pain at the right ancle, and the whole leg speedily swelled, without discolouring the skin.

I visited him on the first of September; as he appeared always to have enjoyed remarkably good health, until within the last four days, and had no recollection of having ever in any manner injured his leg, I could form no just conception of the nature of the disease. To facilitate the distention of the inflamed parts, and thereby alleviate pain, I took away a few ounces of blood, ordered the application of emollient poultices, and a small dose of salts to be taken every other morning.

Visiting him on the third, I discovered the cuticle separated from the cutis vera of the swelled part, by a stratum of albuminous substance; fluctuation was now very apparent, which seemed nearest the surface about midleg, and extended to the tibia; here I made an opening and discharged the pus. On the fifth, I made a counter opening near the maleolus internus, passed a seton from one to the other, along the denuded bone, and bandaged from the toes to the knee, under the apprehension that the disease was similar to that of Rowland's Tom. This treatment was persisted in until the twenty-second, when the openings were enlarged sufficiently to admit free examination of the bone—a measure the timidity of my patient had heretofore prevented. I now discovered, to my great surprise, that the disease *penetrated*, as I imagined, to the interior of the bone, there being a hole with rugged margins, through the external lamellæ, large enough to admit the end of the finger. I now recommended an operation similar to that I had successfully performed on Stair, with the prognostic, that from the limited duration of the disease, it was necessarily of more limited extent.

With the assistance of Dr. Caruthers, an operation was performed on the thirtieth. The seton was withdrawn, and the bone laid bare, and brought to view from one sinus to the other. All the lower end of the tibia was diseased, the lamellæ near the articulation with the astragalus constituted but a shell, and might have been crushed together by a strong man, between the thumb and fingers: the internal substance was soft as mortar.

Finding this condition of things, I came to the resolution to remove all the diseased bone, even if it extended to the knee, in which I was cordially supported by Dr. Caruthers.

The anterior surface of the tibia was livid, and emitted no blood when scraped, to about half its length up the bone; the posterior surface exhibited evidence of animated organization more than an inch lower down. To obtain a full examination, interior as well as exterior, I took, with Hey's saw, a wedge-shaped portion out of the anterior surface of the tibia, the apex of which extended to the upper extremity of the livid lamellæ, which discovered the sound lamellæ at this place to consist of a mere shell: necrosis of the cancelli extended considerably higher up the bone. The necrosing cancelli was worked out with a gouge, until blood, evincing vitality, followed the impression of the instrument.

The division of the integuments was then extended, and the bone was divided, with Hey's saw, an inch higher than it had been penetrated with the gouge. Below, it was divided near the ancle; a small portion of the lower head of the tibia, though diseased, was left to guard against injuring its articulating cartilage.

Thus, about two-thirds of the tibia was removed. The wound was dressed with adhesive strips, over which a roller was loosely applied; due care was taken to prevent unnecessary inflammation, by bleeding, purging, and the antiphlogistic regimen. The small portion of diseased bone left at the ancle, was removed by injected washes, and the whole wound healed in about six weeks.

It is very remarkable, that this boy could not recollect ever to have felt pain in the diseased leg, until the date first above mentioned, although the extent to which this disease (of notoriously slow progress) had advanced, afforded assurance that it must have been of many months, if not years, duration.

The rapid re-production of the lost bone, was also striking. In less than six months, he was able to walk without crutch or stick, and could not be prevented. At this time, August 12th, 1827, he conceives the leg as stout as it ever was.

At the posterior superior end of the removed portion of bone were several clusters of callus, discovering the tendency to re-production, whilst the devastation was yet progressing.

The present deformity of this leg consists in but little else than the scar. The new bone, to the touch, seems about a fourth larger than that of the other leg, and much rougher.

Case.—Betsy Gray, a young woman of scrofulous diathesis, at the age of eighteen, when in delicate health, was, in March, 1823, exposed a length of time to inclement wea ther.

About three weeks after, she experienced frequent pain of the right foot, and was perpetually troubled with uneasy sensations of the foot and leg; the foot regularly swelled during the day, and subsided at night. Such was her case without much variation, until May, when pain became more intense, the swelling increased, and a sinus formed near the anterior articulation of the os cuboides.

In the spring of 1824, an abscess appeared on the right side of the chest, about the seventh rib, which her attending physician endeavoured to discuss: pus, however, effected its discharge in the following September, first, by a sinus situated about four inches from the anterior end of the rib, and some weeks after, by another situated at the angle. Such is the account given by Miss Gray of the early stages of her disease, which continued with but little variation under different plans of treatment, pursued by several physicians, until March, 1827, when she was brought to town, and came under my care. There were, at this time, five issues from the foot, two from the os calcis, one from the cuboides, and two from the ossa cuneiforme; all communicating with one another: fluids injected into any one of them issued from the other. Through none of those openings was I enabled to examine the condition of the astragalus; all their courses tending below it, suggested the hope that it was sound.

As from Miss Gray's own account of her case, the disease of the foot was ten or twelve months prior to that of the side, I conceived the latter might owe its origin and its maintenance, at least in part, to sympathy with the former: and my recommendation of removal of the carious bones of the foot, was predicated on the hope that removal of this source of excitation, might produce such a change in the side as would cause the rib to exfoliate or resume healthy action, as in Miss Harvey's case. As there were no symptoms indicating disease of the leg bones, and as there were grounds for hope that the astragalus might be sound, in preference to amputation, removal *only of the diseased bones of the foot was advised*, well convinced from my experience of the power of nature in such cases, that bones would be speedily reproduced, or such other substance as would better supply the deficiency, than any mechanical contrivance we could substitute for a leg.

April 3d. With the assistance of Drs. Caruthers, Shanks, Weir, and Preston, all the tarsal bones were removed; they were so completely carious and soft, that they were easily crushed between the thumb and fingers, the astragalus not ex-

cepted; no part of their structure retained the natural appearance, but their cartilaginous articulating surfaces. On their removal the bones of the leg were found so much diseased, that the finger met but little resistance, in passing its full length up into the tibia; whereupon, with as little delay as practicable, the leg was amputated below the knee: but the disease was not yet circumvented, remaining portions of both bones were thoroughly carious. It was now concluded to remove the remaining portions of the tibia and fibula, and examine the os femoris, to ascertain whether that bone was sound. Finding that it was so, and my patient being much exhausted, I trimmed off a considerable portion of cartilaginous surface from its articular condyles, and neatly adjusting the ample flap I possessed, I dressed the stump.

No uncommon symptoms ensued,* as much of the wound as usual, healed by the first intention, the occasional discharge of synovia probably retarded the subsequent healing process; but in six weeks it was completely cicatrized.

Removal of carious Ribs.—Miss Gray's side now became an object of interesting attention; it remained in statu quo. Hectic fever, under which she had already laboured when she first came under my care, was excited and increased by the hot weather; colliquative diarrhœa came on, the discharge from her side, always extremely fetid, grew more so; her strength declined daily.

From many careful examinations, I became satisfied that the caries of one or more of the ribs was to the extent of six or seven inches. From the anterior to the posterior opening, injected fluids readily passed; but not vice versa. The lungs were involved in the disease, as was evident from a troublesome and alarming cough, with purulent expectoration, with which she was and long had been much harassed; and which caused me to remark to her that the removal of those ribs would afford a prospect of its relief. She caught at the prospect with avidity, and urged the operation, which she was much encouraged in by the concurrent opinions of other physicians who visited her.

Fearful of the result, her case being a very unfavourable one

* I apprehended less danger in thus exposing the cavity of a large joint, than most writers on this subject would lead us to forebode, owing to experience derived from my manner of treating white swellings and wounds of large joints, from which I freely evacuate pus, believing that by confinement this matter becomes erosive, I willingly admit air (if it must needs be so) as a substitute: and my success, I think, has warranted the practice.

to success, I for some time parried her solicitations. I very much doubted whether the existing disease in the lungs might not be too extensive to admit of cure even after the caries, which I considered the proximate cause, was removed. Finally, however, I consented to operate.

Never having seen a detailed mode of operating for the removal of a rib, I made my first essay upon a dog, and found the operation less difficult than I had anticipated.

On the twenty-fifth of June, 1827, with the advice and assistance of Drs. Caruthers, Shanks, and Jordan, the operation was performed.

An incision was made upon the seventh rib, from the posterior to the anterior sinus, bringing to view about six inches of its convex surface, discovering it to be in a state of complete necrosis. No formation of callus any where discoverable; after examination, the incision was carried forward about an inch and a half farther, where the rib appeared sound, bleeding when scraped. Having completely divested it of its periosteum, I here passed an *elevator* under the rib and between it and its periosteum, and divided it with Hey's saw. The incision was then extended back to the spine, and the rib was there detached from its articulation with the vertebræ. At this part of the operation much care was used to avoid wounding the dorsal nerves.

On farther examination, the sixth rib was found in like manner diseased, and was in like manner removed. Underneath this rib, a little anterior to the angle, a sinus communicating with the lungs was discovered: a hole about the size of a goose's quill, which emitted a great quantity of matter, discharging with more freedom when she coughed.

From *reviews* I have seen of operations to remove carious ribs, as performed by Cettadini and Richerand, securing the intercostal arteries seems to have constituted a difficulty.

In this operation I was not under the necessity of applying a ligature to any blood-vessel, the intercostals lying between the pleura and the periosteum were made perfectly secure by interposing the elevator, as above stated, between the periosteum and the rib.

After removing as much of the diseased soft parts as was deemed prudent, the wound was closed with the interrupted suture, and adhesive strips, covered with lint, and secured with a roller. Inordinate inflammation was completely prevented by two small bleedings, and maintaining a loose state of the bowels.

Examination on the fourth day discovered about four-fifths of

the wound to have healed by the first intention. No pain has been complained of since that time; the hectic declined and disappeared in a few days; the cough has materially subsided, sometimes not troubling her for twenty-four hours together. An issue is maintained by tents, opposite the sinus of the lungs, through which a considerable quantity of matter, which appears to be a mixture of mucus and pus, discharges: this opening will be maintained until the lungs are entirely relieved.

On the 15th August, she left town on a visit to Digu's Sulphur Spring, a trip of twenty-two miles, which she made in a rough Jersey wagon, without complaining of fatigue. I visited her on the 22d, her cough had mended, her appetite and strength had increased, and her general health and appearance had visibly improved. She rides daily to the spring on horseback, a distance of more than half a mile from her lodgings.

The portions of rib removed, had suffered internal necrosis. Their lamellated structure was to a small extent destroyed at several points; viz. at the anterior sinus, at the angle, and at the neck; but most at the angle.

The event of the preceding cases, together with others, affections of bones and joints, not here detailed, treated upon the same general plan, with results equally satisfactory, have induced me to adopt the conclusions—That *dead* bones should be considered and treated as foreign bodies; that they are as foreign to the living bone, or parts with which they are in contact, as though they had been introduced from without;—and, That they should be removed thence without delay, even though it were an entire bone—for the greater the oppression, the greater the necessity for relief.

Were a surgeon called to a patient who had stuck a snag of wood, or (to render the analogy more palpable,) say a sharp piece of bone deep into his flesh, what would we think of his awaiting its removal by the efforts of nature? Yet we know that after a time, (if in the interim the patient should not die,) her process would effect its expulsion. Inflammation would expand and relax the surrounding parts, which would presently terminate in mortification or suppuration; if the latter, the outlet would be enlarged and lubricated by the discharge, and the *snag*, after a tedious interval, would be forced out by the pressure of granulations formed within.

Between the cases of a carious plate under the periosteum and the *snag* in the flesh, I conceive a strong analogy to exist, though differing in the following particulars—the former is in contact with parts less sensible, and endued with less active vitality,

consequently the processes of inflammation and relaxation, with their *necessary* consequences mortification or suppuration, or both,* are of slower progress, less painful, and more insidious.

The snag, having no obstacle to its exit except from superincumbent integuments, is more easily pressed out by the granulations underneath, than the carious plate, which together with the same obstruction, is confined by the connecting processes of the lamellæ, rendering force requisite to detach it even after the integuments are removed.

Upon the whole, I can conceive no other reason for preference of delay in the one case to the other, except that in the case of caries the progress of disease is slower, more sufferable, and less immediately threatening to life. Nature will frequently accomplish relief in both cases; but oftener I believe, and with more facility, from the snag, than from the caries. But why in either case await for months, a result that a little skill would with less hazard effect in a moment?

ART. V. *Observations upon the use of the Nitrate of Silver, as a remedy in various local affections.* By STEPHEN BROWN, M. D., one of the Physicians of the New York Hospital.

WE have for some time had it in contemplation to lay before the medical public, our experience in the use of the *Nitrate of Silver.* A remedy as valuable as we conceive this to be, in many troublesome, obstinate, and sometimes dangerous disorders, is deserving a volume appropriated to the elucidation of its remedial powers: and we have, in some measure, been anticipated by Mr. Higginbottom, who has published a small volume on the use of this article in inflammation and ulcers; and in some local injuries, notice of which has been taken by the editors of some of our periodical journals.

Mr. Higginbottom recommends the *Nitrate of Silver* in wounds of various descriptions; by needles, hooks, bayonets; so also of wounds from saws, of bites of leeches, and animals, of the stings of insects—and especially those small scratches

* Concerning resolution, impossible, whilst the proximate cause of inflammation is unmoved.

and punctures received in anatomical dissections. The danger of these last mentioned accidents, may, according to Mr. H. be completely arrested by the prompt and free application of the *lunar caustic.* Even in neglected cases, where a small tumour has formed under the skin, attended with a smart stinging pain, he advises the tumour to be removed and an adherent eschar to be formed by the caustic:—and in still more neglected and advanced cases, where inflammation of the absorbents has supervened, a free crucial incision is to be made, the caustic to be freely applied, and afterwards, the cold poultice and lotion; "the usual constitutional remedies being actively enforced."

From our own observations of the efficacy of the lunar caustic in many local affections, (and we have been much in the practice of its use) we give full credit to Mr. Higginbottom's views of its efficacy in the above mentioned cases, and we also give our own experience of its use in other cases not mentioned by Mr. H.

The inverted Toe Nail.—This disease appears to arise from the pressure of the shoe or boot forcing the soft parts against the nail which has been suffered to grow too long. This excites an inflammation of a specific character, which soon passes into ulceration, unless the cause be at once removed. Or it may arise from cutting the nail too short; by which that very sensible portion of integument close to the nail is pressed against a solid sharp edge newly created by paring close.

It more generally takes place upon the great toe, and at the outer side next the second toe, where the soft parts are thicker and more pressed upon by the weight and natural movements of the body, than the inner portion.

The method of treating this disease recommended by systematic writers and generally practised, is to remove a portion of the nail which is next in contact with the diseased part. In the 26th number of Johnson's Journal, notice is taken of the celebrated Dupuytren's method of treating this complaint. He makes two *varieties*, the first in which "one side or angle only of the nail is buried in the integuments."—In the other, "the nail is surrounded entirely by fungous granulations, and its root is diseased." In the *former* case, the removal of that portion of nail which is covered with granulations will be sufficient—in the *latter,* the whole nail must be torn away by making an incision with a convex bistoury in a semicircular form behind the root of the nail from one side to the other. He then seizes the extremity of the nail with strong forceps, and reversing it backwards, removes it and the portion of soft parts anterior to the semicircular incision.

Although this practice succeeds, yet it is an operation of great severity, and generally, if not always, unnecessary. The practice has arisen from the universal impression among surgeons, as well as the vulgar opinion, that the nail "grows in upon the flesh." It certainly has that appearance—but the disease is owing to the soft parts becoming thickened and the inflamed and ulcerated part rising above the *unyielding nail.*

Our reasons for the above opinion are,

1st. That the disease is generally next to the second toe where the soft parts yield to pressure against the nail.

2d. A troublesome inflammation sometimes exists a length of time, without any ulceration at all—and that this occasionally extends all around at the root of the nail.

3d. Upon removing portions of the nail in cases of long standing, we have not generally observed the nail to extend down by the side of the toe further than natural—due allowance being made for the thickening of the soft parts and the rise of fungous granulations. This disease may be speedily cured with very little pain, and without the knife. Three years ago, I was myself the subject of this affection. It grew worse under various applications of *washes, ointments* and *poultices.* Being unwilling, promptly, to submit to the practice I had invariably pursued with my patients thus afflicted, viz. to remove a part of the nail by incision, and resolved to try the effect of the lunar caustic, the sovereign efficacy of which I had frequently observed in other painful inflammatory affections, I accordingly pencilled the part very freely with a stick of caustic previously wet with *saliva;* not only upon the ulcerated part, but extended it over the whole inflamed surface, and upon the nail contiguous to the ulcerated part. I daubed it very plentifully, and then covered the whole with dry lint. The next day I was pleased, though surprised, to experience the abatement of the tenderness of the part. Its application to the ulcerated part was renewed daily, and it was well within a little more than a week. That portion of the nail to which the caustic was applied became dead and peeled off. The pain from its application was trifling. Since then we have pursued this practice in such cases, with invariable success. But it must be particularly noticed, that a slight application of it to the fungus granulations, and to the ulcerated part, is generally of little avail. It must be pencilled *very freely,* and it is generally advisable to apply sufficient to destroy that portion of the nail contiguous to the inflamed part; and also upon the soft parts as far as the inflammation extends.

Corns.—Physicians are frequently asked the question, "what is good for corns?"—and indeed it can hardly be otherwise, as almost all persons are more or less subject to them. Pressure is the sole cause of these troublesome excrescences, as it is of the ulcerated toe. They are generally produced by tight shoes and boots—hence many Belles and Beaus suffer greatly from them. But heavy persons are liable to corns, especially if they walk much, even though they wear loose shoes.

The formation of corns is doubtless a mere thickening of the cuticle, layer upon layer. They are painful and troublesome in proportion to their size. The pressure of the shoe or boot upon these hardened substances forces them in upon the *cutis vera.* This produces a constant irritation, and an inflammation of the true skin, under and around the thickened cuticle; and from the highly vascular and nervous structure of the skin, and the counter pressure of the bone and solid parts immediately beneath, produces that very acute pain, which we so often suffer from corns. There is no difficulty in curing them, neither should we have them, provided the cause, which is very evident, be removed. But from feelings of pride in some, and from necessity in others, most persons suffer from them. It becomes then a subject of important information, how to manage these troublesome excrescences while the cause continues to operate. We conceive the following plan the best. Bathe the foot at bed time in warm water until the corn becomes considerably softened. Shave the corn down with a knife or scalpel, but not so close as to draw the blood; then *daub the part freely* with the *Nitrate of Silver* previously moistened with saliva or water (the former is preferable). The application should be extended a little beyond the borders of the corn, completely around, until such a quantity adheres, as shall in a short time change it to a *dark grey*, and eventually completely *black.* There is no hazard of getting too much, especially upon the corn itself. Then wind a little raw cotton around the toe, and put on a stocking to confine it over the corn.

In about two or three weeks the part acted upon by the caustic will slough off, including every vestige of corn, leaving the part quite smooth and of a natural appearance.

In this manner we have often removed corns which have not been succeeded by others in the same situation. They frequently, however, after a while grow again from the operation of the ordinary cause, when they may be again removed in the same manner, and thus kept down with little trouble. Every individual after having been once instructed, can manage his own case.

If the application be made at bed time, which we advise, as

it will afford several hours of complete relief from the operating cause, the tenderness and inflammation will be greatly abated, frequently completely relieved, by morning. The foot should be covered with cotton as long as any tenderness remains.

Ulcerated Throat, Mouth and Tongue.—It is useless, perhaps, for us to speak of the good effects of the Nitrate of Silver in the venereal sore throat. It is doubtless the best local application if used in a pure state. Dissolving in water renders it comparatively inert.

Several cases of ulcerated tongue have occurred under our observation, within a few years, of a peculiar nature. They were in persons of adult age, and mostly of a scrofulous or leuco-phlegmatic habit. The ulcers were scattered in different parts of this organ, and some far back at its base. They were of an aphthous appearance, some of which were quite deep, though not large, having inflamed edges. Several were of many months standing, and had resisted various applications. We could trace them to no particular cause, but a peculiarity of constitution with a derangement of the digestive organs.

They were all healed in a very few days by the application of the lunar caustic.

The worst ulcerated tongue we ever beheld, occurred to us a short time since, which was occasioned by an imprudent use of mercury in a peculiar habit of body. The tongue was ulcerated on each side, from one extremity to the other, and considerably thickened. The patient had not been able to *eat*, to thrust the tongue out of the mouth, or even to articulate for three weeks. Her physician had directed the usual means, but amendment was so slow, she thought proper to consult us. *One* free application of the caustic over the whole surface of the ulcers made a material alteration within twenty-four hours. It was applied daily, and within four days she could thrust the tongue from her mouth without any difficulty, as the swelling had greatly subsided—in eight or ten days she was completely cured.

The Nitrate of Silver appears serviceable in every grade of sore mouth.

I would remark upon the mode of applying the caustic within the mouth. As the parts are always moistened with the saliva, the stick should be perfectly dry. Touch the affected part, and remove the caustic instantaneously. If the part touched has received sufficient of its substance that it turns immediately white, it need not be applied again for that time*—if not, touch

* If the ulcer be small or deep, the stick should be brought to a point, or made somewhat conical, in order to carry it more surely to the bottom.

it a second time, and a third if necessary, till such effect be produced.

Sore Nipples.—Every practitioner who is much conversant with obstetric practice, must have witnessed cases of this painful, and often obstinate and serious affection. Serious, because it not unfrequently produces the necessity of taking the child from the mother's breast entirely, and sometimes occasions the obliteration of the orifice, or destruction of the whole nipple, and of course renders it ever after useless. The ordinary means recommended in such cases, often prove inefficient, or so slow in producing the desired effect as to induce mothers and nurses to abandon the prescriptions of the accoucheur, and to substitute their own or some hearsay remedy, which may be warmly recommended in such cases. Hence under such a course of tampering, serious consequences are liable to occur, as above stated; and, indeed they often prove extremely obstinate under the most judicious management.

The cause of this disease is very obvious—the stimulus of nursing the child, in cases when the nipple has a peculiarly thin and tender cuticle. But we think such cases may generally be speedily cured, without removing the child from the breast; and that this may be effected by the application of the Nitrate of Silver. Having witnessed some troublesome affections of this nature, and been frequently disappointed in our prescriptions; and considering the efficacy of the Nitrate of Silver in allaying erysipelatous inflammation, and in healing irritable ulcers of the cornea, and other parts of the body, we tried it in the following case.

A lady with her first child had both nipples sore in three weeks after her confinement, which she attributed to the nipple glasses. Various applications were made with great care and attention; notwithstanding which they continued to grow worse for eight or ten days, when they became so exquisitely tender that the nursing of the child gave her excruciating torture. We proposed the application of the *caustic*, to which she assented.

At this time, the top of the left nipple was in a state of ulceration, nearly surrounding the orifice. It appeared to be of the sphagedenic character and extending. There were also several rhagades upon the sides of the nipple, running transversely, the longest of which was at the base. These fissures, whenever the child drew upon the breast, gave exquisite pain.

A stick of the Nitrate of Silver with a conical point, was moistened and gently applied to the fissure, and to the edges of the ulcer upon the top of the nipple, so as to change the surface to a greyish colour.

The tenderness was less the following day, when it was applied twice, morning and evening. Two applications were also made the two succeeding days; after which, one only was made daily.

Within seven days the fissures were entirely healed, and the top nearly, so that nursing the child occasioned but little pain. The practice was pursued till they were completely healed, the child being continued at the breast the whole time.

The artificial nipple, made of the *heifer's teat*, expedites the cure if it can be used. In the above case the child could not be made to suck it.

The question may naturally be suggested, whether it be perfectly safe for the child to suck the nipple to which the caustic has been applied? The affected part should be so lightly touched that but a small quantity adheres to the surface, which combining with the substance of the skin, loses immediately its causticity, and becomes an inert substance, which, if taken into the child's stomach in a minute quantity, occasions no inconvenience.

We have also used the Nitrate of Silver with success in spongy gums, attended with a frequent oozing of blood, which were of long standing, and resisted other modes of treatment.

In chronic inflammation of the eyelids and cornea it has proved effectual. It co-operates with nature in a truly wonderful manner, in restoring to healthy action, parts which have been disorganized by wounds of different kinds, by ulcers and different grades of inflammatory action, particularly all character of *unhealthy inflammation*. If it be that kind of inflammation which attends aphthous affections of the mouth and throat, ulcers of the cornea, and various other cases of painful and unhealthy inflammatory action, it soon changes its character, and substitutes one which is less painful and of a healthy character, which disposes ulcers to heal.

In parts which want more action, as in lacerated and punctured wounds, and in ulcers of the sphagedenic character and diminished action, it excites action to such a degree, and such only, as disposes them to healthy granulations.

It is equally favourable to ulcers and inflammation of the *mucous surfaces*, as in diseases of the skin; as in ulcers of the vagina; and upon the glans penis, and in ulcers of the throat, mouth, and tongue.

In addition, I beg leave to subjoin a letter addressed to me by a highly respectable practitioner of this city, showing his experience in the use of the *Nitrate of Silver* in the *putrid sore throat*, which cannot fail to be read with interest by every medical practitioner.

New York, June 1st, 1827.

DEAR SIR,

In compliance with your request, I transmit the following statement of the effects of the Nitrate of Silver, as a local application in the putrid sore throat, *(the Cynanche Maligna of nosologists.)* with such accompanying remarks and observations as are deemed appropriate to the subject. You are at liberty to make what use of them you please in your intended communication, hoping that your commendations of this valuable medicine, may contribute to its being still more extensively employed in practice. In August last, I visited three patients affected with the malignant sore throat in one family; and afterwards, at intervals, several others. The first was a female about eight years old, who had been labouring under the disease more than two days before I was called to attend her. After the third visit, being obliged to spend a few days in the country, she was left in charge with another physician. On my return I attended her about four times. The case terminated fatally. On my first visit, I found the tonsils and palate covered, to some extent, with white spots or specks; considerable diffused redness and swelling in the fauces; the pulse frequent, irritable and somewhat irregular; and the tongue covered with a thick stratum of slimy scurf. A morbid increase of heat, and disposition to stupor appeared to prevail. On being aroused, her countenance became more suffused, perturbed, and anxious. Externally her throat and neck were much swoln, especially the submaxillary glands. The respiration was hurried and difficult; and indeed appeared in some degree suffocative, as though some extraneous substance was lodged in the trachea. These were some of the more prominent symptoms: and were present, with some variation, in most of the subsequent cases. To particularize them will be unnecessary, as they have been so fully enumerated by systematic authors. The rattling or suffocative breathing noticed above, suggests the remark, (and certain facts within my knowledge tend to confirm it,) that physicians unpractised in the disease, are liable to confound it with croup or hives; the mischievous consequences of such a mistake are too obvious to need comment.

The treatment of the case described was mainly that recommended by approved authors; as gentle emetics, cathartics, and diaphoretics, with a moderate use of calomel at an early period, the bowels not easily moving at first by milder cathartic medicine. The muriatic acid gargle was the one chiefly relied on, others being occasionally used. The sulphate of quinine was

administered towards the last stage of the disease, and mineral acid was also used internally. The throat being much swoln, a few leeches, which drew indifferently, and a small vesicatory, were early prescribed. The disease, however, appeared to have been but little retarded or controlled in its progress by the remedies employed. Ulceration extended from the fauces to the Eustachian tubes, through the nares, and down the throat. Fluids taken into the mouth ran principally in the act of deglutition, from the nostrils. Much corrupt fetid matter was, at times, discharged from the seats and surfaces of the exulcerations. The local ravages of the distemper appeared to be the cause of death. The fatal result of this case, in connexion with two others pending in the same family, excited unpleasant feelings, and somewhat abated my confidence in the local means usually applied in this dangerous malady. A more efficient local application appeared evidently necessary, and, in determining upon one, it occurred to me, that the Nitratum Argentum might prove valuable for this purpose. Its efficacy, when applied to diseased surfaces of different kinds, had excited my favourable attention, as I had recently applied it with marked success in obstinate chronic aphthæ, and ulcerations of the throat, from other causes. I had found it successful in an exceedingly obstinate case of Herpes preputialis, which had long resisted a series of approved remedies, prescribed in part with the advice of several skilful surgeons, expressly consulted in consequence of the difficulty experienced of finding any medicine that would agree well with the irritable herpetic surface; or, at least, any that would not soon lose the salutary influence it appeared to be exerting in curing the disease. Reasoning from analogy, I felt myself warranted in making the trial, though I had no knowledge of its having been used for that purpose. Accordingly, I pencilled the affected parts of the throat with the Lunar Caustic, and had soon the pleasure to witness its salutary effects: not only had the ulcerations ceased from spreading wider and deeper, but they had assumed a more healthy appearance. Thus confirmed in my opinion of its virtues, I applied it freely in both the cases, and was happy to find that it fully answered the intended purpose. Both patients obtained speedy and effectual relief. Though one of those cases, at its commencement, was apparently less severe in its symptoms, than that which terminated fatally, yet the other was more threatening than either. The febrile irritation and swelling of the throat were greater; the patient more comatose; the breathing more obstructed, or rattling; and the disease sooner extending to the nares. Its progress, however, in that part, was speedily arrested by a saturated

solution of Nitrate of Silver, applied with a small swab passed freely up the nostrils.

Soon after these cases, several others occurred in succession. The eruption noticed by authors, as occasionally appearing in this disease, was observed on but a few of the patients, and of short continuance. Upon one, however, there was a plentiful miliary eruption, producing in its progress minute specks or points of whitish lymph, in appearance like suppuration, and terminating in furfuraceous desquamation of the cuticle. One of the cases occurring, presented strongly marked symptoms of croup; it is proper, however, to remark that the patient had been subject to repeated attacks of that complaint. I can state nothing decisive as to the contagiousness of the disease. In some families of children, only one was affected, though all were freely exposed to it. The local treatment was the same in most of the cases, i. e. pencilling the throat freely with the Nitrate of Silver, or a saturated solution of it applied with a swab to the parts affected. As the styptic taste of the medicine is disagreeable, children require to be held firmly, while the tongue is freely pressed down with a spoon, and a plug suitable in size, of soft wood, is held fast in one corner of the mouth to keep it open. After touching the diseased parts, the spoon and plug should be withdrawn, from time to time, to give opportunity for washing out and cleansing the mouth and throat. The earlier the local applications are made the better, as the Nitrate of Silver appears to exert a speedy controlling effect, in preventing the incipient ulcerations from extending. Pencilling the throat with the medicine is preferable to the application of its saturated solution. The caustic may be fastened in the end of a quill, secured by a small thread, carefully wound and tied around its split part. The medicine may be applied once, twice, or oftener a day, according to the severity of the local affection. As the throat requires repeated cleansing of its viscid secretions, and is benefited by the occasional use of some detergent gargle, in most of the cases a strong solution of the Sulphate of Zinc, with a plentiful addition of honey, was prescribed, to be used by the family attendants. A more particular detail of cases treated would occupy too much time. The object in view will best be promoted by a brief exposition of facts and general principles.

From the latter part of August to the commencement of March, I treated in my private practice ten cases of malignant sore throat successfully, with the Nitrate of Silver as a local application. The general treatment consisted in freely vomiting the patients, usually, at the first visit; and repeating it at suitable intervals. Immediately after pencilling the throat with the caus-

tic, was deemed the most favourable time for repeating the emetic medicine. A moderate, but steady action of the bowels was maintained by mild evacuants; rhubarb combined with magnesia was in most cases preferred. While considerable febrile irritation remained, a solution of the Tartarite of Antimony was freely given about every second or third hour. The valuable febrifuge qualities of Antimony are too well known to need special remark at this time. The experienced observing practitioner is well aware of the importance of reducing increased febrile excitement in local, as well as in general affections; for, in diseases of local determination, by lessening the general excitement, the local difficulty is often proportionably decreased. Again, by diminishing the local ailment, the general excitement is, in like manner, favourably controlled. After suitable reduction of the attendant fever, Calomel combined with Dover's powders, exerts a salutary influence in assisting the local applications in producing a speedy resolution of the disease. It is an important principle of practice, that Mercurials as alteratives have a most beneficial effect, after evacuant and depleting means have been used to the proper extent to reduce febrile action. Inattention to this practical rule has occasioned many of the abuses of this potent and valuable medicine. In so formidable a disease as the ulcerated sore throat, in its several cases, all the means, both local and general, promising benefit, should be faithfully put in requisition, that full justice may be done to the patient. The object in view, therefore, is not to recommend any one remedy to the exclusion of others. It is only desired, that a fair trial may be given, at an early period of the disease, to the caustic as a local application, employing at the same time, according to the indications present, such general and local remedies, as, tested by experience, promise to be useful auxiliaries.

In conclusion, I would observe, by way of comparison, that in two very dangerous cases of this disease, I have used the Capsicum gargle. One recovered, the other terminated fatally; but considering the circumstances of the latter case, it might have thus terminated, had any other local means been used. I have applied the muriatic acid gargle in two cases of great severity. One recovered, the other, already mentioned, proved fatal. In a few cases of a mild character, and mostly in very young children, I have used with success, a strong solution of the Sulphate of Zinc, having its taste covered with a plentiful addition of honey. This is my favourite local remedy for the aphthous disease in children. The Pyroligneous acid I have also used successfully in two other cases; they were, however, both mild and moderate in their general symptoms. In the ten

cases mentioned above, in which the lunar caustic was employed as the principal or only remedy, all, or nearly all I believe I may truly say, were severe and dangerous cases.

From the limited experience I have had in the disease, I am, therefore, disposed to give the preference to the Nitrate of Silver, especially if employed early, as the progress of the ulcerations by its use is soon checked. I might also add, in confirmation of its efficacy at an advanced period, that in one case, where the exulcerations were very considerable, one of the tonsils being nearly destroyed, attended with a very fetid state of the breath, the caustic speedily arrested the local ravages of the disease.

With great esteem I am,
Dear Sir,
Very respectfully yours, &c.
LEWIS BELDEN, M. D.

To Stephen Brown, M. D.

We in this place subjoin the following extract of a letter from one of our correspondents, as illustrative of the efficacy of the Nitrate of Silver in ophthalmia.—*Eds. Am. Med. Rec.*

To the Editors of the American Medical Recorder.

York, Dec. 14th, 1827.

Gentlemen,

An account of my success with the solution of the Nitrate of Silver in ophthalmia may be interesting. For the last three years that complaint has prevailed through this section of the country to a very considerable extent, and has been very obstinate, yielding slowly to Venesection, both general and local, accompanied by a strict attention to the antiphlogistic regimen, ordinary local applications, &c. and often without any perceptible advantage. In one of the numbers of the Recorder, which I received, some cases of the complaint were given as having been treated by a solution of Nitrate of Silver with success. From that time to the present, I have used no other, and in every instance with the most beneficial effects. In the commencement of the complaint, and for eight or ten days after, I have used the lancet, when from the severity of the pain and increased arterial action, I thought it necessary, accompanied also with saline, or mercurial cathartics; at the same time using the solution of Nitrate of Silver, in the strength of two grains to the ounce of water, dropping into the eye one or two drops three times a day; at the expiration of a week or ten days, often sooner, the pain and fever having subsided, I have used it at the rate of four grains to the ounce, and have always been able to effect a cure in fewer days than any other plan required weeks.

Respectfully, &c.
JAMES GREEN, M. D.

REVIEWS.

Quidquid venerit obviam, loquamur
Morosa sine cogitatione.—*Martial.*

ART. VI. *The Dublin Hospital Reports and Communications in Medicine and Surgery.* Vol. IV. p. 576. Dublin. 1827.

(Continued from page 415, No. 40.)

FATAL ERETHISM OF THE STOMACH.—Some cases of this nature are recorded by Dr. J. Cheyne, which are rendered highly interesting by the circumstance of its having occurred in individuals of the same family. D—— B—— of a saturnine complexion, sedentary habits, and costive bowels, "had been affected with occasional sickness and vomiting of every kind of food for fourteen days. The ejected food frequently sour. December 14th, 1823, prescribed pills of aloes, Rhubarb and Bicarbonate of soda.

"*Dec.* 15. In the night a yellow, bitter fluid, presumed to be bile, was vomited, and in the morning, a *green ropy fluid, exactly the colour of the green baize floor-cloths*,* together with undigested chicken broth, taken on the 14th. He complains of the pills producing nausea; he took water in sips and a grape to allay thirst; Enemata; blister to the epigastrium.

"*Dec.* 16. If more than two or three grapes were taken at once they were vomited. Pulse 76, soft; no heat of skin; tongue swelled, furred, and dry in the centre. His throat slightly inflamed. Urine turbid; stools from the glysters natural, with a proper quantity of healthy bile. Lemon acid water in sips; blister, to the left hypochondrium. Twelve leeches to the anus. *Dec.* 17. Leeches bled profusely within the rectum, and when he went to stool he passed from half a pint to a pint of blood

* This symptom occurred in all the cases narrated, and appeared to be a characteristic of this singular affection.

which had lodged there; took a glass of lemon ice and a like quantity of pump water, which he preferred to every thing; he complained of nothing but thirst; two aphthous spots appeared on the inflamed uvula and velum. Three liquid, otherwise natural stools in the night; P. 76, skin temperate. Gargles were used; clysters of milk. *Dec.* 19. Tongue less swelled; throat much inflamed and beset with aphthous spots. No vomiting since the night of the 16th; from this time forward he continued to sink, and finally died on the 24th.

"DISSECTION on the 25th. The body was emaciated; abdomen retracted; gall bladder filled with dark bile; stomach large and flaccid, containing nearly a *pint of green fluid.* Its mucous membrane presented a peculiar appearance; the veins were unusually turgid; the surface, especially at the great extremity, of a dark mahogany colour; which was owing to vascular distension and general extravasation into the submucous tissue. This was perceived, but in a less degree, in the intestines. The mucous membrane of the œsophagus was of a deep red colour and highly vascular."

Three other cases are related, two of which proved fatal. The subjects of these cases, together with the foregoing, were three brothers and a sister. Two other members of this family, which consisted of six children, had died of a similar complaint, the peculiar characteristics of which were the incessant vomiting of a *fluid of a verdigris green* colour, together with aphthæ covering the pharynx.

Dr. C. in his concluding observations, says, "It appears that the green fluid vomited by these patients was the product of the stomach and not of the liver;" for in the case above narrated, the stomach contained much of the green fluid, while the gall bladder was full of dark bile. And in three of these cases the patients declared the green fluid was not bitter, and in the fourth, enough aloes had been taken to account for the bitterness of the contents of the stomach. Six individuals in one family being attacked with the same disease, naturally induces us to believe that it was dependent on peculiarity of constitution. What then is this peculiar diathesis? To this inquiry Dr. C. answers, that four of the individuals had at a former period laboured under a strumous affection.

UNUSUAL VARIETY OF THE FEMORAL ARTERY, detailed by Mr. Houston.—The femoral artery, at its commencement, was of the ordinary size and in its ordinary situation. About an inch and a quarter below Poupart's ligament, it sent off the profunda which at first descended behind it, and not along its outer side.

About half an inch from the origin of the profunda, the femoral artery divided into two, an internal and external trunk, the former being somewhat the largest; either of them was smaller than the ordinary sized femoral, yet both combined would have made a vessel of larger caliber. These trunks lay together on the same plane, and descended parallel as far as the opening in the tendon of the triceps, precisely at which point they re-united to form the popliteal artery.

Each of these trunks was enveloped in a distinct fibrous sheath, which separated them, so that an incision exposing one of them would not have brought the other into view. The circumstances connected with this irregularity were such as must have caused a failure, had the occurrence of an aneurism in the ham made an operation necessary.

A precisely similar case, as regards the anatomical arrangement, but complicated with popliteal aneurism, has been published by Mr. C. Bell, in Anderson's Quarterly Journal for October, 1826, where the operation was performed, and a failure was the result: for this case, see also the Recorder.

SETON IN UN-UNITED FRACTURES.—Dr. Browne relates a case of un-united fracture of the tibia, treated successfully by this method, which is no novelty on this side of the Atlantic, though it appears to be so to Dr. Browne, for he believes it to be "of so *recent* a date, that practitioners are not as yet fully authorized in giving this remedy their decided approbation." This method, which was first employed by Dr. P. S. Physick, (of whom no mention is made by Dr. Browne,) has been employed *here for many years*, and has obtained the decided approbation of our most distinguished surgeons.

ANOMALOUS STOMACH.—Mr. I. Hart relates a singularity of form and structure in this organ, which occurred to him during the dissection of a female subject, aged about thirty, of whose previous history he could obtain no information. He found the stomach placed in a more perpendicular direction than usual, and the first portion of duodenum appeared unusually long, running transversely to the right. No morbid structure was discoverable. The stomach and duodenum, when removed and inflated, presented the following appearances. The left extremity of the stomach was of the usual size and form; but the right extremity, instead of contracting until it became continuous with the duodenum, ended in a cul-de-sac, about half as large as the left extremity.

The duodenum arose from a depression, marking the lesser arch of the stomach about half-way between the two extremi-

ties. In the vicinity of the pyloric orifice there was, both anteriorly and posteriorly, a tendinous patch of about twice the size of a crown piece, and nearly circular.

The pylorus consisted of a slit-like opening, having a transverse direction, with respect to the line of the smaller curvature of the stomach. It very much resembled the ileo-colic valve, and was formed much in the same manner. The form and structure of the stomach strongly resembled that of several tribes of birds of prey.

A Tailed Man.—Dr. Jacob gives an account of a remarkable production attached to the end of the vertebral column of a man, resembling a tail in structure and appearance. What a valuable fact would this have been to lord Montboddo, who held that mankind are but an improved race of monkeys, and were originally endued with tails, which in the progress of civilization have disappeared! This instance, as well as several others, cited by Dr. J., gives us reason to fear that if Montboddo's theory be true, our race may again relapse into the pristine state, and that tails will become fashionable, to the great annoyance of their wearers. Indeed, there are not a few *fashionables* of the present day, who only want tails to make excellent monkeys.

Excision of carious Joints.—Several interesting cases of this nature are given by Philip Crampton, F. R. S. The first case is one of true white swelling of the right elbow joint, where the symptoms would have justified amputation; but the patient was willing to submit to excision. This operation was performed by making an incision along the spine of the inner condyle, beginning about four inches above, and terminating about two inches below, its tuberosity. This incision laid bare the ulnar nerve, which was removed from its groove and drawn to the inner side of the incision.

A similar parallel incision was made on the outer side of the humerus. Then a transverse section dividing the tendon of the triceps, immediately above the olecranon, and connecting the lateral incisions so as to resemble the letter H.

The upper and lower flaps were then raised. The muscles on the anterior side of the humerus were detached for the space of three inches, by a scalpel laid on its flat and retained there by an assistant. The bone was then divided by means of a saw directly over the flat surface of the knife, which served to guard the muscles beneath.

The lower extremity of the humerus was now dissected out, and the articulating surfaces of the Radius and Ulna exposed, which being found in a healthy state, with the exception of the

olecranon, this alone was removed. It was not found necessary to use ligatures. The flaps were laid down and secured to each other by four points of suture. The fore arm was placed at a right angle with the arm, and the wound dressed with lint, wetted with spirits and water. The wound healed, and he was able by a voluntary effort to flex the fore arm slightly. He had the use of his fingers; could use a knife and spoon; and finally, *signed his own discharge with the right hand.*

Excision of the knee-joint was also performed by Mr. C. in two instances, the last of which was completely successful, though the first was only attended with temporary benefit, and the patient died in the course of three years. These operations were similar to the one above described; the transverse incision being carried below the patela.

Osteosarcoma.—Some cases of this nature, in several of which excision of a portion of the lower jaw was resorted to with success, are related by Mr. Crampton, F. R. S. &c. with a view to show that there are two kinds of osteosarcoma, the one mild, the other malignant; in the former of which alone can any benefit be expected to result from an operation.

The following is a remarkable instance of the mild kind.

"*Case.*—A gentleman about thirty-eight years of age, who for seventeen years laboured under an osteosarcomatous tumour, which grew from the upper part of the os femoris, continued until within the last three months of his life to delight the society in which he lived by the charms of his conversation, and by the exercise of his unequalled musical talents. Before his death the tumour acquired an almost incredible magnitude; it measured (including the thigh) six feet six inches in circumference. A few hours before his death he vomited several quarts of a brownish coloured fluid, and died in the act of vomiting, in consequence of some of the fluid regurgitating into the trachea, and causing suffocation.* The body was carefully examined on the following day by my friend Mr. M'Namara and myself; all the viscera were perfectly sound. The tumour formed a vast cavity, the walls of which varied in thickness from six to twelve inches; the cavity contained several quarts of a fluid which in colour, odour and consistence, exactly resembled that which had

* In its earlier stages, this case was seen by Sir A. Cooper and Mr. Abernethy in London, and by the Baron Dupuytren in Paris. It was, however, during the last three years that the tumour acquired such an extraordinary developement: when Sir A. Cooper and Mr. Abernethy saw it in the year 1817, (four years previous to the death of the patient,) the tumour including the thigh measured about three feet six inches in circumference.

been vomited for some hours before death. The walls of the tumour consisted of a firm cartilaginous structure, intermixed with bone, the bone being deposited in flat plates, on the outer surface and in small nodules (about the size of grains of shot) on the inner surface of the cavity. It appeared plainly that the tumour was enlarged by the constant deposition of a semitransparent gelatinous matter in large hemispherical granulations, each about half an inch in diameter; these gradually became consolidated into a substance resembling cartilage, and in the centre of each of these granulations was a small nodule of bone; a part of the tumour had passed over the brim of the pelvis, and pushed into its cavity, but the peritoneum was unbroken, and no connection could be traced between the cavity of the tumour and the intestines; in fact the cavity did not extend beyond the upper part of the thigh, and was completely enclosed by the thick cartilaginous and bony walls. Nothing remained of the os femoris except its head, and about four inches of its lower extremity; nevertheless, so firm were the walls of the tumour, that, to the last, the patient was able to support his weight, and even to walk upon the diseased limb. The stomach, which appeared to be totally free from disease, contained about a pint of fluid perfectly similar, in all its apparent qualities, to that which was found in the cavity of the tumour. That there was nothing *malignant* in the character of this tumour may be inferred from the circumstance of its having subsisted for seventeen years without exerting any unfavourable influence on the general health, from its never having ulcerated, or thrown out a fungus, and from the absence of all disease in the glandular system or in the viscera."

Mr. C. gives the following explanation of the cause of those varieties in the structure and nature of tumours proceeding from the bones.

"The *cellular parenchyma*, or organized matrix of bone, like every other organized structure of the animal system, is liable to inflammation; but the *character* of that inflammation, whether *acute* or *chronic*, *simple* or *specific*, will be determined by the character of the constitution in which it is excited.

"Thus in a cachectic habit, when there is a predisposition to morbid actions, on the application of any disturbing influence, the inflammation will be likely to excite, or to terminate in, diseased actions, the product of which may be cancer, medullary sarcoma, or some analogous disease of a malignant nature. If the inflammation, on the contrary, be excited in a scrophulous habit, the morbid structure to which it gives rise will preserve

the scrophulous character, and the result will be a diseased growth, sufficiently intractable under any treatment, but still possessing no character of malignancy.

"In a healthy constitution the inflammation will probably subside without causing any permanent alteration in the structure of the bone, or it may terminate in simple abscess or necrosis.

"The presence or the absence of bony matter in an osteosarcomatous tumour will probably depend upon the relative activity of the secerning and absorbent systems in the diseased bone; if the vessels which secrete phosphat of lime be in a state of inordinate excitement the whole bone will become enlarged, and a great quantity of earthy matter will be thrown out in irregular masses from its surface; if, on the contrary, the activity of the secerning system be diminished while the activity of the absorbent system is increased, the phosphat of lime will disappear, and the bone will be converted into a substance resembling cartilage."

CANCRUM ORIS.—Some observations are offered on this formidable affection, with cases from the pen of Dr. Cuming. He presents nothing new on the subject. It may, however, be proper to state that he does not believe that it results from mercurial irritation, and he most usually found its most aggravated varieties to be the sequelæ of some protracted debilitating disease, frequently of the exanthematous kind. Dr. C. does not appear to be aware of the utility of a saturated solution of sulphas cupri. and epistastics in this disease, and he was unsuccessful in the treatment, especially of the worst variety, which is the same as the Gangrænopsis of Dr. Jackson. [*See No.* 39, *page* 66, *of this Journal.*]

Dr. Cheyne presents a medical report on the feigned diseases of soldiers. For information on this subject *(See No.* 40, *p.* 372, *Recorder.)*

A communication relative to the fatal consequences of a wound received in dissection, with a case by Dr. Colles. Cases of this nature have been so multiplied of latter years in our periodicals, that we deem ourselves excusable for omitting the details of this.

MEATH HOSPITAL CASES, by Drs. Graves and Stokes.—The first is *gangrene of the lungs*, which they were unable to detect the existence of by the stethoscope, owing to the location which was upon the diaphragm. The second is a case of *general pulmonary apoplexy*, which presents nothing of interest except its extraordinary extent, which was almost throughout the whole of the lungs. The third is a severe case of *Psoriasis*,

affecting not only the scalp, face, and extremities, but nearly the whole surface of the body. An abundant desquamation of silvery white scales was constantly occurring; handfuls of them could be gathered every morning in her bed; skin almost universally of a bright red colour, and very much inclined to itch; pulse 100, strong; she was thirsty, but had a good appetite, and was otherwise healthy. Venesection was performed twice—she was put on low diet, and during the first three weeks leeches were repeatedly applied to the more inflamed parts of the surface. During this time she took every day a pint of decoct. Sarsaparilla, and about two drachms supertart. potash. When the cutaneous inflammation was considerably diminished by these means, recourse was had to the use of sulphur internally, and warm baths containing sulphuret of potash. The disease appeared to decline for some time under this mode of treatment, but became stationary afterwards. Strong stimulants to the skin were now had recourse to, such as tar ointment, and a mixture of tar and citrine ointments. The parts to which these applications were made, were well cleansed daily with soap and water, or water containing a solution of caustic potash. Warm baths and the internal use of sulphur have been continued. She uses a diet of bread and milk, and is now nearly well.

"The only difficulty which occurs in the treatment of squamous diseases, is to determine the proper period for leaving off the local antiphlogistic applications, and changing them for stimulants. The latter, if applied too soon, will aggravate the disease, and when this is found to be the case, they should immediately be laid aside, and the application of leeches, poultices, and cooling lotions again be resorted to."

Case of Porrigo.—John Nowlan, ætat. sixteen, covered with porriginous eruption in its most aggravated form, which affected particularly the head, face, elbows, hands, and wrists. An enormous accumulation of scabs occurred on the hands. The nails were thickened, contorted and split. From his arms and hands there arose a considerable steam, and the odour of the body was most insufferable. On the trunk there were but few pustules, though the skin was red and rough with papulæ, and the cuticle fell off constantly in dry scales.

The skin of the extremities was red and hot. He had rigors occasionally, with constant thirst, but was not emaciated. *Treatment.* He was bled twice to a considerable amount, purged freely, and several warm baths were used. He was greatly improved by these means, the skin of the body having lost its inflamed appearance, still the hands were loaded with dried scabs,

red, and constantly exhaling a dense vapour. Leeches were applied, and warm poultices over the leech bites; warm bath and an electuary of supertart. potash and sulphur. Small doses of arsenical solution. Symptoms not yielding Dulcamara was used without much benefit. The antiphlogistic plan was again resorted to, when every inflammatory symptom subsided, but he was still covered with small white scales, and his hands were covered with thick scabs but had lost their inflamed appearance. He now used the sulphur bath and the tar and citrine ointment to the hands and head with great benefit, as the scabs fell off, leaving a fine cuticle. In about ten days he suffered a relapse, an eruption appearing over the whole body. Inflammatory indications being present he was put on the antiphlogistic plan, and then the tar and citrine ointments, which, together with warm baths, completed the cure in a few weeks, and he has continued well ever since.

PROPAGATION OF INFLAMMATION BY CONTIGUITY.—A case illustrative of this circumstance next follows.

"In the dissection of a fatal case of enteritis, we observed that the omentum, which lay extensively over the intestines, was healthy, except where it was in contact with the inflamed portions of the intestines. These portions were circumscribed and limited in extent, some highly vascular and red, others in a gangrenous state, and one actually perforated. The perforation was very small, not exceeding a line in diameter. The inflamed portions of the omentum were very vascular and red, about the size of a dollar, and *lay exactly over the inflamed portions of the intestine.* It is to this correspondence in their situation with the inflamed parts of the intestine, that we wish to direct the attention of our readers."

The following solution is offered respecting the foregoing and similar phenomena, occurring in any part of the serous tissue.

"When a portion of a serous membrane becomes inflamed, it is rendered highly vascular; it becomes at first dry and rough, but afterwards exhales either a morbid fluid secretion, or coagulable lymph; there is some reason to believe that its temperature is also increased. Now in this state of things, that portion of the opposite membrane which corresponds to it, is thus exposed to the contact of a membrane, whose *sensible properties* are altogether altered from their natural state, and which may therefore be now considered to be as it were a *foreign body*, which presenting a surface quite different from that to which the sensibility of the opposite membrane had been accustomed, must of course act as a stimulus to it, and thereby excite in it an inflammatory action."

A fatal case of sloughing of the mouth and palate, supposed to have originated from a small dose of calomel, concludes this report.

DISEASES OF THE HEART.—We come now to notice a number of interesting cases, illustrative of various diseases of the heart. As these are numerous we cannot be expected to present the details. We shall content ourselves with merely mentioning little more than the titles of some of the most curious among them.

OSSIFICATION OF THE PERICARDIUM.—This is a rare disease. It occurred in a man ætat. about sixty, who died from the effects of charcoal fumes. On dissection the viscera were found in a natural state, with the exception of the heart, which was a little enlarged, and was very generally adherent to the pericardium; "it was encircled, or nearly so, by a zone of bone, about three lines in thickness and more than an inch in breadth. That this bone was deposited in the pericardium itself was very evident, although in some points it had sunk into the muscular tissue, and penetrated almost to the lining of the ventricle."

Cases are given of the following affections:—Acute pericarditis; Rheumatic inflammation from metastasis; Active enlargement of the heart without valvular disease: of this three cases are related; Rupture of the heart; Aneurism and rupture of the cordæ tendineæ; Aneurism of the heart; contraction of the left Auriculo-ventricular foramen, four cases of which are detailed; Ossification of the aortic valves, and contraction of the arterial opening of the left ventricle; and ossification of the coronary arteries of the heart and aortic valves, which concludes this paper.

The only remaining essay is one containing eighty-two pages, entitled, "Observations upon the origin and latent period of fever, by Henry Marsh, A. B. M. D. M. R. I. A." From the nature and extent of the subject it discusses, as well as the elaborate manner in which it is treated by Dr. M., we are compelled to wave an analysis of it, and draw our review of this interesting volume of Reports to a conclusion.

ART. VII. *Pathological and Practical Observations on Spinal Diseases; illustrated with cases and engravings. Also, an Inquiry into the Origin and Cure of Distorted Limbs.* By EDWARD HARRISON, M.D. F.R.A.S. Ed. &c. London, 1827. (pp. 294.)

CHAP. I. is entitled "*Remarks on the different appearances of the Back, Breast, and Ribs, in persons affected with Spinal Diseases, and on the injurious effects of Spinal Distortion on the Nervous System, the Sanguineous Circulation, and the Internal Viscera.*"

Our author, in the first place, enters into a brief review of the human fabric, and especially of those parts of it which are most intimately related to the spine. He next takes occasion to advert to the alterations produced by disease, and the effects of these alterations upon the viscera and the functions they are designed to perform. "The enclosed lungs require a capacious chest for their full expansion, and to permit the blood in them to undergo its proper changes in the pulmonary cells. When they are compressed and impeded in their motions, by the bony frame being squeezed and thrust out of shape, cough, dyspnœa, and dangerous congestions ensue, from slight causes. These lead to the formation of tubercles, to inflammation, suppuration, and fatal consumptions.

"Unless room be allowed in the chest for the heart freely to admit and expel the blood sent to it, accumulations form in the several cavities. The heart, in struggling to free itself from the oppressive load, is thrown into violent agitations; and thus is laid the foundation of organic derangements in its several cavities, in the valves, and in the neighbouring blood-vessels.

"Crookedness in the dorsal spine not only affects the back, but leads to a derangement of the sternum and ribs, highly prejudicial, in many ways, to the subject of it."

Some observations follow, tending to show the manner in which distortions of the vertebræ affect the ribs, sternum, and shoulders, constituting the peaked breast, or what is commonly called *chicken breasted.*

But the ribs and sternum, together with the contents of the thorax, are not the only sufferers from these derangements. The great vessels in the abdomen, the thoracic duct, and the nerves which are distributed to the most important thoracic and abdominal viscera, are also disturbed, and more or less injured.

The following quotation presents, in his own words, the pe-

culiar opinions of Mr. H. respecting the origin or cause of spinal distortions.

"We are told by experienced practitioners, that luxations of the dorsal and lumbar vertebræ are impossible under any circumstances. They found their opinion upon the large surfaces by which these bones correspond, the number and thickness of the connecting ligaments, the strength of the muscles employed, the small motion of each vertebra, and the vertical direction of the articulating apophyses. I am ready to admit, that, owing to the protection given, vertebral dislocations seldom appear in these parts; but that they sometimes occur in the loins from external violence, I am enabled to assert from my own experience. I am unacquainted with any case of luxation in the dorsal vertebræ, from injuries received; but I have met with many examples from a gradual enlargement of the articulating fibres. Nature, which cannot bear sudden alterations, is habituated to them gradually and insensibly. An inconsiderable disturbance of the spinal marrow, suddenly produced, totally deranges its substance, though it is not sensibly injured when the changes operate by slow degrees. Sometimes one vertebra only is affected, sometimes more, by which the magnitude of the curvature is determined. The disposition of the spine becomes lateral, posterior, or anterior, according to circumstances.

"1st. When the head, shoulders, and arms, become heavier than the spine is capable of sustaining with impunity, it is encouraged to bend towards the right side, because the great use which is made of the right hand determines the spine to assume that direction in preference to every other. In this manner, then, arises the lateral incurvation, which is by far the most common variety of spinal distortions.

"2d. The spine seldom protrudes directly backwards of itself: and when it assumes that deviation, it has been forced into it by some corporeal exertion, in pulling, lifting, or carrying.

"3d. The anterior or inward curve from constitutional causes most commonly shows itself either in the lower cervical and upper dorsal, or in the inferior lumbar, vertebræ. The former protrusion is attended with very distressing and injurious effects upon the lungs and heart. In the latter, the rectum, bladder, and uterus, are thrust out of their natural situations, and prevented from freely performing their respective offices."

He does not however deny, that the disorder may arise from caries or wasting of the bodies of the vertebræ. These have been found, after death, entirely removed, leaving the cartilages sound and entire. This is thought to arise from absorption, the result of the action of abscesses, aneurisms, and other tumours,

upon the bones. The spine, deprived of its natural support, sinks inwards, and produces the anterior curve. The contiguous viscera, however, more generally preserve the column nearly erect.

Besides those species of incurvature mentioned above, single bones, or a few contiguous ones, are liable to be protruded in the neck and loins. "The dorsal, and not unfrequently the lumbar vertebræ, also stand forward in a continued line, making an elevated ridge, which may include the whole, or only part of the bones."

Most delicate females exhibit, on examination, a small irregularity in the height, distance, and lineal direction of particular vertebræ. The slight disorderly arrangement and disposition of the component parts of the spinal column, though hitherto overlooked and wholly neglected, exerts an important influence on the future health.

The effects of this subluxation have never been traced to their origin in the spine, owing to their not being distinguishable by the symptoms. "A very slight and partial compression of the cord, or some of its nerves at their origin, will disturb the organs to which they run. If we admit the operation of this cause upon the several vertebræ of the neck, back, and loins, in different persons, we shall be at no loss to account for the almost infinite variety and endless complication of nervous symptoms, which harass many individuals through life, and baffle the most eminent of the faculty. When we take into account the number, the size, and the distribution of the spinal nerves among the viscera and muscles, we are led to conclude that scarcely a complaint can arise in which they do not participate. Even tetanus, in several instances, has been lately traced to this fertile source of human miseries." It appears, however, that "in recent cases these subluxations are easily replaced: parents will therefore best consult the health and comfort of their children, by having the spinal column frequently examined, and taking the earliest opportunity of counteracting its defects."

Mr. H. next proceeds to examine the opinions of other pathologists respecting the cause of spinal incurvations. "Glisson and others contend, that the bones being unequally nourished, and one side growing faster than the other, a curvature is produced by the different thickness of the two sides." But if this be allowed in relation to a single vertebra to occur occasionally, still we can with difficulty bring ourselves to believe, that many of them may be brought to participate in this irregularity, more especially as a counter-curvature is always formed in another part of the spine, in which case the exuberant growth must take

place on both sides of the spine at the same time. "Mayow's opinion leads to a belief that one set of spinal muscles, acting more vigorously than another, bend or draw the bones out of their proper stations, and induce the curves which take place." This may be easily shown to be incorrect, but we have not room to enter fully upon the discussion. We may observe, however, that though we have strong muscles to raise and bend the trunk, they are never synchronously opposed to each other in their action, but proceed in unison with one another. The muscles may have something to do with spinal distortions, but in a different manner. "The muscles destined to move the spine, are attached to the articulating fibrous structure, and not to the vertebræ which it encloses. This substance is stretched by them, and in weakly habits becomes preternaturally elongated, partly by the muscular force pulling it, partly by the bones being pushed against it in the various turns and gesticulations of the body. As these parts gradually give way, the joints slowly enlarge, and admit of greater motion. A slight luxation is first produced in one joint, and afterwards in several. If the further progress of the complaint be arrested in this early stage, the person is said to have got round shoulders, or to have acquired an awkward carriage; but the real state of the spinal column, on which these appearances depend, is not in the least suspected."

The practice resulting from Mayow's theory is inefficacious and injudicious. "The sufferer, placed on an inclined plane, is confined and prevented from sliding downwards by a band fixed under the chin. In this situation he is directed to work and twist the muscles of his back, to increase their tone and action." According to Mr. H.'s experience, "the result has always been unfavourable, both in time and all other respects."

After some observations in relation to Mr. Baynton's plan, which would have appeared better in that part of the work which treats particularly of it, our author again recurs to his own peculiar views, and asserts the possibility, in most recent and some protracted cases, of restoring the dislocated vertebræ, during which the following observations occur. "The luxated vertebræ have in some old cases been found united together, and consolidated into an irregular and indistinct mass. Such occurrences have been met with in practice, and are upon record; but they take place much less frequently than some of our countrymen have been led to imagine. We must not suffer ourselves to be deceived by them into a hasty belief that the bones are generally diseased, and that therefore nothing effectual can be done for the removal of spinal distortions."

He also again examines, more extensively, the multitudinous

derangements which result from spinal curvatures. This mode of procedure is observable in many parts of the book, which, though it contains some sound and ingenious observations, is swelled out in many places by useless repetitions.

CHAP. II. entitled "*Observations respecting the nature and origin of the common species of Disorder of the Spine, with critical remarks on the opinions of former authors.*"

It commences with similar repetitions to those we have just animadverted upon. Mr. H. then proceeds to examine the different modes of treatment which were in use before the promulgation of his own, all of which he endeavours to show are defective.

We select the following observations, in relation to the plan of treatment recommended by Mr. Pott, which, if Mr. H.'s theory be correct, are deserving of particular attention. It appears from the spirit of Mr. Pott's writings, "that in his estimation, caries formed a necessary and essential part of this formidable malady. I will take other opportunities to prove that this opinion, the foundation of all his reasoning and practice, is not only founded in error, but has led to the general introduction of a cruel and mischievous treatment. It rests on the most respectable authorities, that paraplegia can appear in its most complete form, independently of caries; and it is equally certain, that caries of the vertebræ is frequently unaccompanied with paraplegia.

"We are instructed in the foregoing passages, that spinal complaints affect three different textures,—the bones, ligaments, and cartilages. The last are brought to participate during the progress, and cannot, therefore, be allowed any share in the original formation. Though Mr. Pott always found disease in the 'ligaments,' and 'sometimes in them without any apparent affection of the bones,' he unaccountably overlooked them, and limited his curative indications to the morbid state of the bones."

It however appears, from later dissections, that the vertebral bones are not always enlarged or disordered, even when accompanied with so great a degree of deformity as obviously to have been the cause of death. "According to this view of the subject, we must direct our attention to some other tissue, to discover the true cause of spinal complaints; and I am of opinion that we shall for the most part find it in the connecting ligaments, 'which seem to have lost part of their power of holding the bones together.' These get relaxed, and suffer a single vertebra to become slightly displaced. The column now losing its natural firmness, other bones are pressed unduly upon the sur-

rounding ligaments; they, in turn, become relaxed and elongated, by which the dislocation is increased, and the distortion permanently established. The direction becomes lateral, anterior, or posterior, according to circumstances; but the malady has in every instance, where the ligaments are the affected parts, the same origin, and requires the same mode of cure."

"The practice of Mr. Pott arose, by an obvious induction, from his own premises. His object was to excite inflammatory action by caustic issues, and thereby induce anchylosis, or union among the morbid bones. That such treatment is useful at an advanced period, after caries is actually formed, may be agreeable to sound practice, though it has never obtained the universal approbation of medical men. Professor Rust remarks, that numerous observations and long experience have proved to him, that issues rarely produced the desired effect, and that they even frequently accelerate the progress of the disease in a late stage. At an early period, while the disorder is confined to ligament alone, the practice of Mr. Pott is highly objectionable, because it prevents the application of other modes better calculated to restore the sufferer to his natural figure and former health.

"It cannot be denied, nor do I wish to insinuate, that patients have not recovered upon this plan. Caustics, by stimulating, encourage the muscles and ligaments to act more energetically, by which they sooner regain their lost tone and vigour. The curative process is further expedited by the rest to which invalids must, to a certain degree, submit, while smarting under the pain of caustics. In many cases, Mr. Pott found it necessary to do more than employ caustic issues: he actually confined his patients to bed, or to a horizontal situation, during the greatest part of the cure, as they could not bear to remain in an upright position. In all these recoveries, the subjects of them remain through life in puny health, because, the bones continuing displaced, and some of the viscera being necessarily subjected to injurious pressure, the important functions of the spinal cord are imperfectly discharged, owing to the difficulties it meets with from the altered form and direction of the medullary canal."

Mr. Copeland "imputes the disorder to pressure, from an inflammatory increase of bulk in the fibro-cartilaginous substances interposed between the vertebræ." This opinion Mr. H. coincides with only in cases of external violence; and it is uncertain whether in these instances the inflammation originates in bone, cartilage, or ligament. The species which our author is desirous of awakening attention to, makes its attacks so insidiously, as not to be discovered until a long time after its invasion.

It presents none of the local characters of inflammation, nor is it accompanied with pyrexia. This, which is the most common variety, seizes upon relaxed fibres, or persons accidentally debilitated.

After again recurring to the injurious effects produced by spinal distortions operating on the spinal nerves, and, through them, on the ganglionic system, a healthy state of which is so necessary to the correct fulfilment of the organic functions, our author observes, that the indication for the cure of spinal affections is to restore the displaced bones to their natural positions, that the spinal cord and its nerves, relieved from injurious pressure and disturbance, may be reinstated in their former abilities. In all the cases which have admitted of being treated upon these principles, complete success has resulted. "The affected organs being no longer under the influence of diseased nerves, gradually, and often suddenly, recover their healthy state and proper functions."

Mr. Baynton's plan of treatment, which he was induced to adopt, owing to repeated failures when he employed the ordinary modes, "consists in placing the patient horizontally upon a firm and unyielding mattress, where he is to remain constantly recumbent during the whole process. He is not accommodated with a pillow to support the head; nor is he to be moved in the least, for the most necessary occasions. All fears of the health suffering under this mode have been happily removed, by the successful issue in that respect of the different trials. In every case where it has been properly conducted, the patient soon became easy, cheerful, and regained his rest. Appetite and digestion improve under the confinement. In general, there is an increase of flesh, and a marked improvement of countenance. The intention of the plan is to afford the 'softened bones of the vertebræ' an opportunity to obtain their proper hardness, and make them able to support the weight of the parts above."

"The length of time required to produce the cure varies, as we have already stated, from seven to fifteen months. At the end of this limited period, the patients were allowed to rise, and take exercise, according to their ability. We have not been informed by the author of any relapses, but such occurrences are asserted from other quarters to have happened."

"No means were used to remove the tenderness and pain of the back. These were soon subdued by rest alone. In no instance were external applications wanted. Internally, the liquor calcis muriatæ was administered to increase and consolidate the ossific process. Besides this remedy, bark, and medicines to obviate costiveness, were also employed. It is difficult to say

how long the resting should be continued; nor can we lay down any rules with confidence, till we have had greater experience. In the slightest cases, the recumbency must be continued five or six weeks after the removal of all tenderness. Where disorganization of the bodies of the vertebræ has taken place, the *rest* must be prolonged two or three months after every inconvenient symptom has disappeared."

The only objection to this plan advanced by Mr. B. is, that no measures of precaution are advised to prevent relapses. He then enters into an investigation of the nature of paraplegia, in which he examines the opinions of Dr. Baillie and Mr. Earle; he endeavours to show, that the cause of paraplegia is nearly always to be found in a morbid condition of the ligaments of the spine, or the envelope of the cord.

The celebrated Mr. Chessher, of Hinkley, employed the following plan, which, though it at first promises much, yet in the end proves delusive, and even positively injurious, if we may be allowed to judge from the results of cases where this mode has been resorted to. We make the following extract from a letter addressed to Mr. H. by a lady, who became his patient; and after having tried Mr. Chessher's mode unavailingly for many years, was essentially relieved in a very short time by Mr. H. It will give a tolerable idea of Mr. C.'s treatment, and its results.

"At sixteen, when I enjoyed good bodily health, I first became Mr. Chessher's patient, and commenced to wear his steel collar, which conveyed the weight of the head upon the hips, and acted with pressure below the loins, by means of various steel plates attached to the lower division of the collar.

"I continued to recline every day, wearing the steel apparatus; and in the morning, during the whole time of its being fitted to the body, I remained suspended in a neck-swing, which is merely a tackle and pulley fixed to the ceiling of the room: the pulley is hooked to the head-piece of the collar, and the whole person raised, so that the toes only touched the ground. Sometimes I used the reclining bed, which combines extension with the recumbent position. It consists of two boards, the uppermost of which is made to slide with rollers upon the lower. The patient is slung by the head to a hook fixed at the top of the under-board, and lying on her back on the sliding one, she allows it to run down by means of a cord held in the hand. Exercise in walking and riding was also recommended, which I continued, until debility compelled me to decline these muscular exertions. After having borne the collar nearly two years,

weakness increased, and frequent faintings ensued: this languid state of health was followed by a severe attack of fever."

But the evils resulting from this method did not stop here; she lost the use of her lower limbs, and large portions of skin sloughed away in consequence of the continued pressure of the iron collar. And though the spine was elongated by this apparatus several inches while its action was sustained, owing to the extension of the ligaments, yet when it was removed at night the ordinary dimensions were regained, but with increased debility of the ligaments, and predisposition to distortion.

This chapter concludes with a statement of the opinions of Mr. Wilson and Mr. Lloyd, which do not differ widely from those of Mr. Pott, and a reply to Dr. Dods's animadversions on Mr. H.'s plan, in which the following interesting case is introduced, in order to show that the health does not suffer from protracted recumbency.

"Since undeviating recumbency makes an indispensable part of my practice, the reader will necessarily become acquainted with many instances of it in the course of this work. A young lady, who had been confined to the horizontal posture upon Baynton's crib upwards of six years, applied for my professional assistance. I found her easy, cheerful, and a little inclined to corpulence. Her health had been uniformly good, nor had she suffered any personal inconvenience, except when attempts were made to move her from the couch. She then became instantly convulsed in every member. Of this I had ocular demonstration at my first interview. The moment her back was slightly raised by her medical attendant, the countenance became distracted with most frightful agitations. Dreadful spasms immediately seized upon her face, trunk, and limbs. They continued unrelieved till she was replaced flat upon her couch, when they instantly ceased, as if arrested by some magical influence. She immediately recovered her former composure and accustomed cheerfulness. The suddenness of the transition surprised me, and almost overcame my resolution, wholly unprepared as I was for these distressing changes. I had never witnessed any thing like them on former occasions.

"In six months, I had the pleasure to see the same lady, after having undergone my mode of treatment, walking about at her ease. Neither she, nor my other patients, have experienced from lying, any of those distressing consequences which have been depicted in such vivid and dazzling colours by Dr. Dods. If instances of the kind ever occurred in his own practice, they must therefore, I conceive, have been owing to mismanagement. I am so far from concurring in the same opinion, that I can safely

affirm, upon no inconsiderable experience, that recumbency properly managed in spinal complaints, often improves, and never injures the health."

The "*First species of Spinal Diseases, occasioned by an affection of the Ligaments, namely, the backward, convex, posterior or outward Curvature of the Spine,*" is the only one treated of in this, the first part of the work, of which we are promised a second part, which will give an account of the mode of treating the other species, &c.

After some preliminary remarks, our author gives a brief anatomical and pathological description of the different parts which enter into the general composition of joints. These we shall pass over, as the first is not requisite for the medical reader, and the last is little more than a recapitulation of what we have already given. We however quote the following, as tending to illustrate the increased susceptibility to spinal distortions in some persons over others. In speaking of a particular family of his acquaintance, Mr. H. observes, "One of the daughters, aged eighteen, was lately under my treatment for lateral curvature. Two of her sisters, and a little brother, are, to my knowledge, suffering from a similar malady. Both parents lived many years in the West Indies. The mother was born and resided there till after her marriage. This lady displays extraordinary flexibility in all her joints; she wreaths and twists her back in every direction. She can likewise bend her fingers and limbs in a remarkable manner. The son, a fine boy of three years old, possesses similar faculties. He surprised me exceedingly by bending his knee joints, at my desire, forward, backward, and sideways, to a greater extent than I had ever witnessed before. The two sisters, and my patient, are equally gifted with their brother. I am, moreover, informed, that the rest of the children, whom I do not know, have equal pliancy in their limbs. This family, including the mother, are all distorted in their figures, some more, and others less; but not one of them is wholly straight."

Postures long continued will be productive of distortion—this is evident from the fact that the colliers of a particular mine in Lancashire, who are, from the thinness of the stratum, obliged "to sit in a bent posture, and force the right side into the vein while digging out the coal. In process of time the spine is, in all of them, curved towards the right, from their continuing so many hours in a strained attitude." And it is also a well known historical fact, that the Athenian rowers were deformed in the shoulders, from their peculiar occupation.

The succeeding observation is worthy of notice. "Mediocrity is no longer tolerated among the ladies in any pursuit. Nor do they rest satisfied with a single accomplishment: they try ambitiously to excel in many. In the mean time, invigorating exercises are neglected, and the frame becomes gradually undermined by sedentary studies too long indulged. A predisposition acquired in this way facilitates the approach of spinal complaints, and enables very trifling causes to establish them permanently."

We come now to the mode of treatment practised by Mr. H., the fullest description of which is detailed in the narrative of the first case treated upon his principles. Believing that the vertebræ are dislocated, and that all unpleasant symptoms will be removed by restoring them to their former stations, he observes: "With a view to effect this desirable change, I propose to employ strong frictions to the prominent vertebræ. These to be followed by well regulated pressure, directed to the same parts. After the process has concluded, I should confine the vertebræ with long slips of adhesive plaster, to prevent their receding. Lastly, the trunk is to be immediately replaced in the supine direction, and to be furnished with a mechanical contrivance to maintain constant pressure upon the prominent vertebræ."

This process is performed thus: "The attendant, having first smeared the right hand with almond oil, began by rubbing the parts upon, and contiguous to, the projection, backwards and forwards, along both sides of the spine, for a whole hour. I limited her operations chiefly to the bodies of the elevated vertebræ, and heads of the prominent ribs. She also carried her frictions over the middle and ends of the curvature. I then endeavoured, by pressure with my thumbs, to drive the extruded vertebræ towards their natural stations in the column. In doing this, I directed my principal attention to the bodies of the vertebræ, their transverse processes, and different parts of the arch. Having finished this stage, I carried long strips of adhesive plaster across the back to keep down the raised vertebræ. The operation concluded by placing the lady's back upon a hard and flat mattress. A similar method of proceeding was daily repeated under my own eye."

Under this treatment, although the deformity had been great, the bones were reduced to their original situations in four months; her health was restored, and has continued good ever since. In remarking on this case, Mr. H. observes, in relation to the question whether this mode of treatment will not injure the health: "Neither it, nor confinement, has, in a single instance, produced the slightest detriment to the patients. They have suffered no

harm in any way, notwithstanding the injurious reports and numberless mis-statements which have been industriously circulated, to obstruct the career of a most useful practice."

In his subsequent cases, Mr. H. modified somewhat his method of cure. "In the first trial, I depended entirely upon recumbency, frictions, daily pressure, and slips of adhesive plaster; but, in addition to them, I now surrounded the body with a firm bandage, in order to produce constant pressure upon the protuberant parts. The following spring, in addition to other means, I had a stuffed wooden shield placed upon the back, and under the belt, to increase the pressure. About this time I began to operate upon the projecting vertebræ with a metallic instrument, imbedded in soft leather, to prevent the skin from being bruised. Over and above these contrivances, I now employ a steel machine, constructed upon the principle of a windlass, to draw out the spinal chain, and place the vertebræ further apart from each other. Steel shields have lately superseded, in many instances, those formerly in use, because metal can be fashioned with greater exactness than wood, is firmer, and sits closer to the parts intended to be acted upon."

The instruments here alluded to are described in his account of the fourth and sixth cases. "With my early patients, (says Mr. H.) as already observed, I employed only dorsal recumbency, frictions, appropriate manipulations, straps of adhesive plaster and bandages, to confine the projections. Soon afterwards I began to place wooden or steel shields under the bandages, to make greater compression on particular spots. Before many months had elapsed, I endeavoured to elongate the spinal joints. In order to accomplish the object, I fixed a person at the head to keep the body steady, by grasping the patient's arms close under the axillæ. One or two assistants then pulled at the legs. It was during this operation, and while the articulations were forcibly separated and expanded, that I undertook to rectify the vertebræ, by driving them again into the column. Finding that the process was seldom well managed by muscular strength, or that it could be long enough continued to obtain all that was wanted, I substituted a steel machine, which, being attached to the bottom of the couch, acts on the principle of a ship's windlass. Having tied my patient to the upper end of his bed with arm-straps, I connected the ankles or hips to the steel machine, or elongator. By this simple contrivance, a great deal of force may be introduced, and the spinal column lengthened several inches, without raising pain, or producing uneasiness, as I know from abundant experience. This apparatus, which is more fully explained in the sixth case, was tried

upon Mr. G. Andrews, and is now seldom omitted with any patient whose deformity is considerable and inveterate."

To replace the bones while the extension is kept up, as described above, the following means are employed as auxiliaries: "The prominent vertebræ and ribs were then pressed, and driven in the direction of their natural situations, with an instrument held in the right hand. It has a wooden handle, into which is fixed at right angles a brass rod, four inches in length, and of strength enough to bear any degree of force that the operator may deem it prudent to apply. To the lower end another round piece of brass metal, about two inches long, is rivetted at right angles. This, well covered with soft leather, to prevent its bruising the skin, constitutes, with the other parts, the instrument that I employ in all my manipulations. I formerly used my thumbs only for pressure; but finding the other contrivance much more powerful and easier to be borne, I have for a long time given it the preference. A firm bandage was afterwards fastened round the chest, to prevent the bones from rebounding. This bandage being adjusted, she was laid flat upon the back, and directed to remain constantly in the same position. The patient's dress, and the divisions of the mattress, admit of all the natural offices being conveniently performed, without moving the trunk of the body."

Out of nine cases of deformed spine successfully treated, we select the following, which is possessed of the greatest interest, as it not only shows the entire method of Mr. H. but also illustrates the morbid effects of spinal distortions.

Case.—"Miss E. F., of the sanguine temperament, and naturally of a good figure, complains of great pains in her loins whenever she is raised from the horizontal position. The experiment is no sooner attempted, than she is violently convulsed in her arms and legs, upwards and downwards. These agitations suffer no abatement so long as her back is elevated, in however small a degree, from the couch. Her eyes, the rest of her features, and indeed the whole countenance, are frightfully disturbed on these occasions. Not a single muscle of the body seems to be at rest, so extensive and varied is the commotion. She finds neither relief nor mitigation of her sufferings, however long the conflict is protracted. The moment it is discontinued, and her back again feels the crib, the spasms cease, and the countenance resumes its former tranquillity: she becomes composed, cheerful, and easy. The transition is so instantaneous and striking, that it appears more like magic, than the effect of any natural cause.

"Appetite greater than when in good health. Digestion is always accompanied with a redness and flushing heat in the face. Whether awake or asleep, she feels indescribable anxiety and uncomfortableness, which are sufficiently distressing to make her at times indifferent to life. The inferior limbs are always clay cold, nearly insensible, and subject to frequent twitchings; but capable of very little voluntary motion. She is much troubled with indigestion, and with a cough, which is supposed to threaten consumption, and also with a sense of stricture over the stomach. Pulse, belly, and menses, are pretty regular.

"On examination, the whole spinal column, with the exception of two vertebræ, appeared too elevated.

"During the first year of recumbency, the loins (for want of support) wholly lost their natural hollowness, so as to press against the mattress in every part.

"All the dorsal bones now project singly, and stand too prominent. The first lumbar had, on some former occasion, sunk down full half an inch below the level of the contiguous vertebræ, and was nearly buried under the last dorsal. The second lumbar projected considerably, and was partially driven towards the left. There was a corresponding vacancy on the right side of the spine. The next below was also rather depressed; the remainder manifested nothing extraordinary.

"Miss E. F., it appears, commenced the horizontal posture six years and a half since. For three years previously she had been in delicate health, from what was supposed to be a diseased liver, and took large doses of mercury for its cure. Walking, riding, dancing, or sitting long at table, produced great fatigue, which was always most felt in the higher part of the loins. The day after dancing, or using other strong exercise, she was always obliged to remain constantly in bed. Travelling in a carriage was productive of very great inconvenience, which did not wholly subside for several days. Besides tenderness, there was the sensation of stabbing, sometimes in one part of the spine, sometimes in another. Pains in the lower limbs were often more severe than in the spine. After continuing the horizontal posture six weeks, she found herself worse than at first. She was, nevertheless, advised to continue it for twelve months. At the end of that time she tried to get up but found herself in a much more helpless and distressed condition than on first lying down. She could with difficulty bear to be erect even for a few minutes at a time, though supported on both sides. Her sufferings being referred to general debility and disuse of the limbs, she persisted in taking exercise, till the repetition of it became intolerable when continued only for a few seconds. After an

unavailing struggle of several weeks, she returned to the horizontal situation, in which she has been obliged constantly to remain. Every effort to leave the couch invariably produced not only agitation, and a most distressing contraction of countenance, but also an aggravation of her malady for many successive weeks together, with a troublesome headach, sometimes accompanied with a temporary deprivation of her eye-sight and hearing.

"The first four years she occasionally had leeches and blisters applied to the back, by the direction of her physician. Afterwards, the late Mr. Baynton advised simple recumbency, and his advice was strictly followed more than six months. At the conclusion of this treatment, the patient made another ineffectual essay to leave the crib. She then consulted a different surgeon, who subjected her to the constant torment of caustic issues, and very stimulating dressings, during the period of nearly two whole years.—June 9th, 1821.

"Finding no relief from any of the modes recommended, she was at length induced to consult me. By my advice, Miss E. F. has had her spine stretched and pressed in the usual manner, every other day since the last report. She has also worn a firm belt, and for the greater part of the time, next to her back, a wooden shield, properly constructed and well stuffed. Her loins rest upon a firm pad put under the shield. All the dorsal and lumbar bones have already sunk considerably. The natural hollowness of the loins is nearly restored. The two depressed bones have visibly risen. The intermediate one is sensibly sunk, and nearly in line with the rest of the vertebral column. The distressing uneasiness left her soon after the commencement of the new process. She is become constantly cheerful, and sleeps well. Appetite natural, and digestion no longer produces any increased heat. The limbs are warmer, more sensible, and admit of being freely moved. On the day of my first visit, which was at the end of last May, she became tremulous in every limb, and immediately afterwards violently convulsed in them, and in every feature of her countenance, on being a little elevated from her crib; so that, after enduring these painful commotions a few seconds, she was, at my desire, replaced on the couch. During my third attendance, she was more elevated than on the former occasion, and remained longer in that position without experiencing any uneasiness, except slight pain in the first lumbar vertebra. Last Sunday she was put into the sitting posture, with her legs hanging from the couch. After remaining in this situation about five minutes, without suffering the slightest pain, convulsive agitation, or inconvenience in the back, she was again laid down.—July 19th, 1821.

"All the projecting vertebræ are sensibly fallen, and have apparently regained their natural situations. The first and third lumbar are visibly risen. The spinal column has in consequence a more natural appearance, and the chest in front looks much better. She was this afternoon assisted from her couch, and permitted to walk about in the room for five minutes, a pleasure which she had not enjoyed for nearly seven years. She was replaced on the couch, without having sustained the smallest inconvenience. She then observed, that during her former unavailing efforts to continue erect, she was unable to straighten her knees, or put her feet forward.—Nov. 6th, 1821.

"Though the stretching and pressure were omitted after the last report, recumbency was strictly observed until May 1822, and is still submitted to, more or less, every day. The friction has also been persisted in to the present time.

"Miss E. F. did not discontinue her daily walks before the end of December, and was generally on foot several hours together, without suffering any fatigue from her exertions. After remaining some time erect, or on bending the head forward, she was always seized with violent pains, which appeared to begin in the neck and to shoot upwards to the vertex. Lying down soon removes them. Upon viewing the back again this afternoon, I found the spinal column, between the upper part of the shoulders, too much elevated, and standing considerably above the scapulæ. This defect in the vertebral arrangement was unfortunately overlooked by myself and her other medical attendants, twenty-nine in number. The headachs with which she had been tormented, were by all of us imputed to other causes. No proper means were therefore employed to reinstate the vertebræ. It was owing to displacement, as I conceive, that the nerves arising out of these parts became disturbed in their passage through the foramina vertebrarum. Whenever they are interrupted in this manner, the bad consequences do not show themselves at the spinal end, but in their ramifying terminations. Here, then, the symptoms would be displayed in the neck, at the back of the head, and the vertex, because these parts are supplied with nervous filaments from the superior end of the column. This principle, which is so conspicuous in other spinal cases, will be referred to hereafter, and receive a fuller explanation.

"Miss E. F. having determined, in order to relieve herself from this distressing uneasiness, to apply the same treatment to the upper part of the back which had proved so successful in restoring the lumbar vertebræ, it was accordingly this day commenced.—August 18th, 1823.

"The process has been repeated every second day from the date of the last report, to the prominent vertebræ, in the way already described. The health is not at all affected by it. The spine being restored to its natural figure, the treatment is to be discontinued from this day.—Oct. 16th, 1823.

"Stimulant frictions were regularly applied to the spinal region, and undeviating recumbency carefully observed to the 1st of Feb. 1824. On this day the patient again left her crib, and began to resume her walks. At their commencement the exercise was, as formerly, limited to a few minutes daily. No headach, or other inconvenience followed, though it was gradually extended to more than half an hour at a time. She had the misfortune, towards the end of the same month, while walking alone in the room, to fall down suddenly in a fainting fit. By this accident three of the lower cervical, and as many of the dorsal vertebræ, were again displaced, partly outwards and partly in a lateral direction. To relieve herself from the effects of this new calamity, she resolved to adopt the course which had already succeeded so well in restoring her bodily health. The method formerly described was accordingly resumed Sept. 18th, and persevered in till Dec. 20th, 1824. At this period, all the prominent vertebræ being replaced, the treatment was discontinued. Recumbency, with stimulant frictions and mechanical pressure, were strictly observed till April, 1825.

"The patient left her couch May the 10th, 1825, and walked in her room with great ease for a few minutes. The exercise has been daily repeated, gradually enlarging the periods. She is now on foot full two hours at a time, either walking or standing. She has suffered no return of headach, nor has her countenance been at all agitated, since she discontinued the horizontal posture, in the manner described.—July 16th, 1825.

"Since last report, Miss E. F. has continued her daily walks, and extended them to three or four miles in every direction. She has also been upon a pleasurable excursion into the country. Her health and appearance have greatly improved; nor does she experience any inconvenience from the erect posture, or being on foot several hours together.—March, 1827."

We have omitted, where it occurred, to speak of distorted limbs, and our limits will not allow of our saying much respecting them: they are supposed, by our author, to arise from a lax state of the ligaments of the joints, and the treatment recommended for them is to use stimulating frictions, and instrument so adapted as to retain the displaced bones in their proper positions until the ligaments recover their tone. The apparatus employed by him for club foot, and other distortions of the lowe extremities, is thus described:

"I begin the treatment by shaping a metallic sandal to the size of the foot, with the edges turned upwards to confine the part more firmly, and prevent its sliding about. After the foot has been placed in the sandal, it is to be secured with circular bandages, carefully applied. The foot and envelop are to be deposited in a deep leather shoe, made to receive and confine them. A thin plate, screwed to the bottom of the shoe, with a flat steel rod attached to it at right angles, and surrounded with soft leather, is then to be placed along the inside of the tibia, as far as the knee. A broad linen fillet of moderate tightness passed round it and the limb, completes the mechanism and its application. When the limb has been properly secured, little irregularity is apparent. The several parts of the apparatus are to be frequently examined, and occasionally drawn firmer and closer to the leg and foot. Every thing being carefully adjusted, the foot must be permanently retained in its new situation. Though irksome at first, after a few days the bones and ligaments accommodate themselves, and the position ceases to be disagreeable. By steady perseverance the disorder will at length be entirely subdued, and the patient rewarded with a complete cure. The same instrument, with few alterations, will be equally useful where the ankle joint presses too much either outwards or inwards.

"For the bowed leg and distorted knee, the steel rod must be stretched along the leg and thigh, as far as the middle of the latter. A linen or cotton roller is then to be carried round the instrument and limb, of a suitable firmness, and sufficient length to encircle the whole deformity. The rod, well padded and stuffed, is to be furnished with joints opposite to the ankle and knee, to enable them to play freely, and conform to the varying movements of the member. When the mechanism has been judiciously executed, and is altered as the case requires, it is a gratifying sight to contemplate the pliancy of the affected part, and observe its disposition to assume a more perfect shape."

UTILIA FIDELITER EXCERPENDUM.

ANALYSIS

OF

AMERICAN MEDICAL JOURNALS.

ART. I. *The American Journal of the Medical Sciences. No.* 1. *November*, 1827.

"THE design of this work is strictly national;" to ensure the accomplishment of this object, the names of no less than *thirty-nine* gentlemen are given as Editors or "Collaborators." Upon receiving the first number, we were forcibly struck with the beauty of its pink cover; and we hold the fact to be undeniable, that from a journal "established on so broad and liberal a foundation;" with such "ample means;" and so loudly and emphatically pledged as the *magnus Apollo* of American medical literature, we had a right to expect a *change* in its *internal structure*, corresponding with the beauty of its *exterior*, and in proportion to the weight of talent, or rather host of names now added to it. A bare perusal of the table of contents served to convince us that this journal was, that it is, and that it will still be, the Philadelphia Journal of the Medical and Physical Sciences. In our analysis of it, we shall endeavour to cull all the new and practical information—we speak of the original matter—the other departments of the journal are principally supplied from foreign sources, of which we ourselves make a more extensive use.

If paying "liberally" for communications, and giving a much larger quantity of matter than others, is to constitute a great "national" work; we

shall certainly stand a much better chance for that distinction than those who *talk* so much about it; we rely upon, and shall continue to ask for support, only on the merits of our journal; we require no gaudy plumage; and if the influence of *names!* was the only essential requisite to bear us along the current of popular favor, we could treble thrice thirty-nine. But to the analysis.—

1. Mucous Membranes.—Dr. Horner, in an interesting paper entitled Inquiries into the healthy and diseased appearances of the mucous membrane of the stomach and intestines, starts the three following questions: 1st. What is the healthy condition and appearance of the gastro-intestinal mucous membrane? 2d. What is its appearance in congestion from the agonies of dying? 3d. What is its appearance in genuine red inflammation?

To solve the first question, the following are the results of his inquiries: In animals bled to death after fasting, the mucous membrane of the stomach and intestines is of a yellowish pearl colour, with the lightest possible tint of pink; and little or no appearance of blood, even in the vessels under the peritoneal coat. In animals killed with a full stomach by puncturing the medulla spinalis, the mucous coat of the stomach, at the point where the food was in contact, presented a light lake, approaching the colour of vermilion, from the detention of blood in its capillaries. The mucous membranes during life are of a very bright red colour, varying, of course, in proportion to their degrees of vascularity. In a case of sudden death from ossification of the coronary arteries, without the probability of a diseased digestive apparatus, the stomach was found to contain "two ounces of mucus, some of which was loose, while the other formed a white transparent coat adhering to the sides, but which could be scraped off easily. Rugæ of mucous coat elevated, but not unusually so; whole internal surface of mucous coat on the summits and sides of rugæ of a very light, warm sienna or bright brown colour, which was produced by innumerable microscopical points of red blood remaining in the capillaries. In the depressions between the rugæ, the stomach of a dull pearl colour."

In answer to the second question, the dissection of a patient who died in the alms house, serves to illustrate the state of the stomach and bowels in congestion from a slow process of asphyxia. We omit the minute details of the case. The system of the vena portarum was filled with blood, and the small branches under the peritoneum gave a light purple colour to the small intestinal canal, interspersed with mahogany coloured patches. Colon externally, of a pearl white colour, and contracted; internally, covered with small dots or points of red. Stomach, pearl colour on peritoneal surface; internal coat, corrugated; light pink colour, generally; summit of rugæ, appeared like red streaks, at the distance of six feet, from being covered with minute dots of red. No patches of ecchymosis as in inflammation.

The dissection of several patients who died of gastritis and peritonitis, are given to illustrate the appearance of mucous membranes in a state of inflammation, acute and chronic; and as the result of Dr. H's. inquiries, we are taught that the redness arising from *simple congestion*, (depending upon an obstruction to the circulation during the agonies of death,) like the redness from injection, is *uniformly diffused*; whilst the redness from inflammation is generally *partial*; and over the surface of the mucous coat are presented *patches* or *blotches* of extravasated blood.

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2. Capsulæ Renales.—Eustachius first pointed out and described the capsulæ renales in 1563. Without travelling back with Professor Coxe through the regions of remote antiquity, we start at the point where he ends, and simply quote his opinion respecting the use of these organs. "Upon the whole, after duly considering the subject, I am more than ever convinced, that no other use can be ascribed to the renal capsules, than that of diverti-

cula in the fœtal state; and that the probability is, that their functions are never entirely suspended; at least, that on many occasions of disease, they resume in a certain degree their former functions, and thereby co-operate in suspending the fatal issue of many cases, which would otherwise occur. If I am correct in the positions thus advanced, I think all the names by which these organs have been hitherto distinguished, should be abolished, and that of *diverticula urinæ* should be substituted in their place."

Dr. Rush taught a similar theory in his lectures, as suggested by Dr. Lehman, and published in the Medical Repository of New-York, vol. for 1813.

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3. Paruria Erratica.—The third article is a case of Paruria Erratica, by Dr. Arnold, and in an editorial note appended to it, we are informed that "*some account* of this very singular case, has been published in a journal of limited circulation." Upon examining it, we recognised an old and familiar acquaintance, and we were not a little amused at the self-complacency displayed by the editors of the American Journal, when speaking of the limited circulation of one, which, if not *more* extensively circulated, is, we venture to affirm, at least equally so with their own. In the New England Journal for October, 1825, we find, not "some," but a *full* and *complete* "account;" in fact the *same* detail of the *same* case, by the *same* author.

Is it by publishing entire articles from the old numbers of journals, that the editors expect to acquire the reputable distinction at which they aim, and to redeem their pledge that with the "*ample means*" at their disposal, they are enabled to *select* such articles as may be "most interesting from their novelty?" We think not.

An analysis of the paper above referred to, will be found in the Medical Recorder for January, 1826, page 173.

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4. Jaundice.—Having given the history, causes, and his views of the pathology of this disease, Dr. Chapman next proceeds to the treatment. In the ordinary forms, emetics and cathartics are especially indicated, and more particularly the latter, in proof of which it is observed, that Jaundice is often cured by the spontaneous occurrence of diarrhœa. When the disease, however, assumes a more complicated aspect, coming on with fever, or a full, strong pulse and topical uneasiness, bleeding, both general and local, is indicated. When there is obstruction of the biliary ducts from a calculus, or spasm, the indications are two-fold, "to induce relaxation of the duct, &c. so as to overcome the impediment, and to obviate inflammation, which would follow were obstruction or the spasm to continue. To meet these views, we resort to copious venesection, sometimes even *ad deliquum*—to the warm bath—topical fomentations, and to bleeding by cups or leeches—to vesication—to anodyne enemata and emetics. With regard to the latter, their use must necessarily be precarious and doubtful, to the expulsion of calculi."

Having relieved the urgent symptoms, alkalies claim attention; the common potash mixture is found useful, but Dr. C. particularly recommends the following formula:

"℞. Carbonas Potassæ, ℥j.—Sapon. Hispan.—Gum Arab. āā ℥ss.---Alcohol dilut. ℔.---To be frequently stirred, so that the ingredients may be well mixed and dissolved, which will require several days. The dose is half a wine-glass-ful, to be taken for three successive mornings fasting, and, if not relieved, omit it for one day, and then recur to the same mode."

To keep up a constant impression on the primæ viæ, the syrup of butternut (Juglans Cathartica) is recommended to notice.

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5. Dr. Lucas makes some observations on the Medical Topography and Endemic fever of Montgomery county, Alabama; the fevers are of two kinds, inflammatory and congestive; we discover nothing new in the short detail of the treatment.

6. Continued Fever.—Dr. Jackson details the histories of eight cases of continued fever, treated in the Philadelphia alms house, upon the physiological principles so strenuously advocated by Broussais and his disciples. The general objects of this plan are, 1st. to make direct local depletion from the seats of irritation (whether the brain, stomach, bowels, &c.) by means of cups or leeches; (the latter preferable); 2d. to allay the irritability of the stomach, by cooling and demulcent drinks, as lemonade, barley water, &c.; 3d. to produce revulsion, as by sinapisms, &c. The following observations of Dr. J. are highly interesting and of great importance. "The skin was excited by means of moist heat, by enveloping the half of the body in blankets wrung out of water as hot as could be borne, and renewed night and day as soon as they began to cool. This mode of stimulating the skin, when it is intended to produce a revulsion from the brain, I prefer to sinapisms or blisters, when cerebral or meningeal inflammation exists, as pain is a direct and energetic stimulus of the brain and almost every organ, and often aggravates and even excites inflammations in the brain, stomach, &c."

Of the eight cases reported, but one proved fatal, and we do know that the method pursued by Dr. J. has been decidedly more successful than those hitherto adopted in this institution, commencing with active depletion, emetics, drastic purgatives, &c. and when prostration came on, tonics and stimulants freely administered.

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7. Piperine.—The active principle of black pepper has been found highly serviceable, in intermittents; given in doses of from one to four grains, it was attended with as much success as the quinine. Equally combined, they have been found to act with more energy and success, than the whole quantity of quinine.

Mr. George W. Carpenter an enterprising and intelligent young chemist of this city, gives the following formula for its preparation:

"Digest one pound of coarsely powdered black pepper in one gallon of alcohol for ten days, distil off one half of the alcohol in a water bath, add by degrees diluted muriatic acid to hold in solution the piperine, then add water sufficient to precipitate the resin and separate the oil, a muriate of piperine remaining in solution, concentrate this solution by evaporation, and add pure potass to decompose it, and neutralize the acid, when the piperine, in consequence of the diluted state of the alcohol, and the absence of the muriatic acid, will be deposited in yellowish transparent crystals—the crystals may be obtained perfectly colourless, by carefully separating the oil and resin, but as there is no disadvantage in the colour, the additional trouble and expense would not be compensated. The piperine in a colourless state is insipid and inodorous, but united with as much resin as enters into its crystallization, its taste is extremely hot, possessing in an intense degree all the pungency of the pepper, with a considerable portion of its odour, and, I think, is more active than the former. The crystals were perfectly transparent, tetrahedral prisms, with oblique summits of a straw-colour, and as large as the ordinary crystals of sulphat of magnesia."

Mr. C. adduces the testimony of Drs. Rousseau, Rose, and Black in favour of its efficacy in intermittents; the former gentleman suggests the necessity of caution in prescribing the remedy in large doses, as in one case where he employed it, it produced vomiting, and alvine evacuations in unusual quantity.

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8. Medical Statistics of Philadelphia, by Dr. Emerson, occupy forty pages in the Journal, and present a mass of valuable matter, the result of much labour and industry. It is not of a nature to admit of analysis.

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9. Common Iliac Artery.—A detail of the case in which Professor Mott recently passed a ligature around the common iliac artery, for the cure of

aneurism, follows. To Professor Gibson the profession is indebted for having first demonstrated the practicability of this operation, and suggesting its application to the cure of aneurism; and the success of this case tends to establish the soundness of his views. A detail of Professor Gibson's case will be found in the Medical Recorder, vol. III. p. 185; the operation was performed by him in 1812, in a case of wound of the vessel.

10. Dropsy.—Dr. Chapman gives a short detail of several anomalous cases of dropsy, apparently exceptions to the doctrine of the universal and inseparable connexion of dropsy with inflammation. We select a case:

"During the summer of 1825, I had under my care a lady from the country, who, after eating watermelon and some other fruit, was attacked, according to her report, with violent colic, followed immediately by tympanitic distention. On examination I found she had confirmed ascites with œdematous swellings of her feet and ankles, from which she was relieved by copious diuresis and watery discharges from the bowels."

11. Vision.—Dr. Godman notes an interesting fact connected with the physiology of vision; the case of a boy aged seven years, where inversion of objects upon the retina was productive of inaccuracy of judgment as to position. If directed to draw a candle and candlestick set before him, "he invariably drew it with the base represented in the air, and the flame downwards," and so of other objects. This condition of vision continued nearly a year, and gradually ceased to exist.

Art. II. *The North American Medical and Surgical Journal, for October*, 1827.

1. Delirium Tremens.—The conclusion of a paper on this subject by Dr. B. H. Coates, commences the present number, in which he very fully describes the *treatment* most successful in that disease.

After a review of all that has been done, it appears that universal success belongs only to the simple opiate practice of Dr. Pearson, carried to its fullest extent.

In the cases furnished by Dr. Neill, (as appended to this paper,) in which a comparative estimate is made between the emetic and narcotic plans of treatment, we find the most decided preference given to the latter; indeed the author concludes with saying, "*that opium is in mania a potu what bark is in intermittent fever.*" Abundant evidence is adduced in confirmation of its superiority over every other plan. Our author next proceeds to make some observations on the principles of its administration, and states, as regards the proper dose, that in his honest judgment he can assign no limit. The main indication being to effect sleep, which is considered the *sine qua non* to a recovery, opium in the dose of grs. v. vel vi. should be given, every hour until this effect is produced, which must be greatly augmented on failure of the previous dose.

Powdered opium or laudanum is considered the best form for the administration of narcotics.

Next follows, general remarks on the different modes of practice.

Blood-letting should perhaps never be employed, as it is a dangerous, if not a doubtful remedy.

Cups and *blisters* to the head have been employed with decided advantage.

Emetics are condemned by Dr. C. without his having had any experience in their use. 1st. As the least successful of any plan except direct depletion. 2dly. On account of the extreme prostration they usually induce: and dly.

Death has been known to follow, when re-action could not be induced—and lastly, *experience teaches us to prefer narcotics.*

Purgatives are denounced as mischievous. A gentle laxative or enema is all that is required to relieve the bowels, when constipated during convalescence.

Camphor, Assafœtida, Hoffman's Anodyne, are objected to, from their useless complexity, and more especially from the difficulty of inducing the patient to take the fœtida; though Dr. C. acknowledges "the two first as powerful agents in restoring the mind to its equilibrium."

Decoction of Hops has been employed by Dr. Physick, and was found to aid in the production of sleep.

Cold affusions, or the liberal use of *cold wet cloths* to the head, have been recommended on excellent authority.

Ardent spirits appear to be entirely unnecessary and even injurious in the treatment of this affection, and should be proscribed by every philanthropist and conscientious physician.

Powdered capsicum in the form of pills may be usefully prescribed during convalescence to promote digestion.

The following aphorisms we select as exhibiting the authors' views in a condensed form.

"The disease is a delirium, and not a mania; and this distinction should be attended to, both for medical and legal reasons.

"It consists in a heightened activity of the sensorium; and this appears to arise from the generation, in that organ, of an unusual vital power, which is not, as in common, exhausted by the narcotic poisons habitually used. This is not considered as an hypothesis, but the expression of a fact existing in nature.

"It is entirely and absolutely under the control of opium, although the fevers and other diseases which are liable to accompany it may be by no means so.

"The patient must *sleep or die.* There is no alternative. Yet the physician should personally watch the effect of very large doses of opium.

"There is no distinction of stages which need occasion a moment's delay in resorting to opium."

A variety of cases are appended which are not deficient of interest, but do not admit of analysis.

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2. Phlegmasia Dolens.—Dr. R. M. Huston, in treating of this morbid affection as incident to the parturient female, takes occasion to speak of it as occurring in the unimpregnated female, and also in the male sex. After a cursory examination and refutation of most of the theories on the proximate cause of this disease, our author proceeds to give his own views on this subject, which, as they correspond nearly with those of Trye, Gardien, &c. we introduce them without comment.

"I believe it to consist in a complete "*engorgement*" of the whole lymphatic system of the affected limb; produced by an inflamed condition of the different conglobate glands, through which the chief lymphatic vessels have to pass, on their way from the affected part, to the thoracic duct.

"This inflammation may occur either primarily in one or more glands, or first in a principal lymphatic trunk, and thence extend to the glands. And this may originate either, 1st. from the gland or lymphatic trunk being bruised by the passage of the child's head through the pelvis during labour: or 2nd. from exposure to cold, and especially a damp or humid atmosphere; or the putting on of ill-dried clothes, during the irritable condition of the female system which attends the puerperal state: or 3rd, from the absorption of some acrimonious matter, whereby the internal surface of the lymphatics themselves may be excited to inflammation, and thence extended to their appropriate glands; or the matter may be transmitted to the glands and there excite inflammation."

3. Ruptured Urethra.—An interesting case in which this accident occurred, is related by D F Condie, M. D. From the inability of the patient to empty his bladder, it occurred to Dr. C that the distention was caused by the blood having flowed in a retrograde direction. Accordingly on introducing the catheter, a pint of blood with some urine was evacuated. It was evident the urethra had been torn across at two different places, one about an inch from the external orifice, the other, at a part of the canal opposite the centre of the scrotum. The treatment consisted chiefly in keeping the bowels open, the warm bath, hot fomentations to the region of the pubis, and opiates to relieve pain.

After repeated accumulations of bloody urine, attended with involuntary discharges, and the escape of successive coagula of the size of the little finger, the patient was again unable to evacuate his bladder, and every attempt to introduce the catheter failed.

The scrotum became enlarged, tense and painful, so that it soon extended half way to the knees. The catheter now gaining an entrance, suddenly dipped down within the scrotum and gave exit to a quantity of thick, ropy, dark coloured urine.

In order to give a free passage to the urine, an incision was made into the perineal portion of the urethra, which produced the happiest results, for in about a fortnight the cure was completed. It would appear, that in this case the blood coagulated repeatedly in the cavity of the bladder, which was afterwards re-dissolved and discharged.

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4. Dr. Thomas Bond's Introductory Lecture to a Clinical course in the Pennsylvania Hospital, delivered 3d December, 1766, is certainly a very curious relic of antiquity.—As "this was the first formal clinical lecture delivered in the United States," and as its author enjoyed an elevated rank in his profession, we believe the essay has just claims to the notice of every medical reader.

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5. Extra-Uterine Pregnancy.—In professor James' observations on this subject, we find exception made to the term *extra-uterine conception*, as usually applied. Since this process always takes place in the ovaria, it follows of course, that all conceptions are extra-uterine.

Four species are mentioned by the learned Professor, viz: Ventral, Tubal, Ovarium, and where the fœtus is found deposited in the substance of the uterus itself. Several highly interesting cases are given in illustration of the prodigious efforts of nature to remove a foreign body from the system, and by this timely interference, to preserve life from impending destruction.

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6. Nervous Head-ache.—Dr. J. M. Alexander, of N. C. in a letter to Dr. Otto, describes a very painful, obstinate, and long protracted case of headache, as it occurred in Major James Harris, ætat. 53, effectually and speedily cured by Sol. Mineral. Fowler. Dr. O. also alludes to a case that yielded to this medicine, occurring in his own practice.

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7. Sulphuric Acid.—Dr. W. D. Brinckle, in a paper on the use of Sulphuric acid in the cure of intemperance, has given several cases in illustration of its efficacy. This plan of eradicating so destructive a habit, was derived from a German physician, M. Bruhl Cramer, who employed the acid for that purpose, conjoined with bitters. Dr. B. usually directs a drachm of Sulphuric Acid in a pint of whisky, rum, or brandy, and a wine-glass full to be given every hour. A drachm of powdered Ipecac. infused in a quart of brandy, decanted and used ad libitum, is to be preferred in some instances as equally efficient and more readily administered.

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8. Dr. Joseph Parrish gives some practical observations on a form of Con-

stipation liable to be mistaken for Diarrhœa. The remedies employed, are purgatives assisted by enemata, and when the indurated mass of fæces is found to occupy the rectum, they may be broken down by the finger or spoon handle.

The importance of not confounding this disease with diarrhœa or stricture of the rectum, will readily be appreciated.

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9. Case of Osteo-Sarcoma, described by Dr. Henry Bond, as occupying the bones of the pelvis on the right side, and the transverse processes of some of the lumbar vertebræ. The iliac artery and vein were found quite superficial and crowded above the tumour. The os femoris was sound, although its superior end was buried in morbid structure.

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10. Dr. J Rhea Barton gives additional remarks on his case of Anchylosis, treated by a surgical operation. We transcribe the following.

"In contemplating this operation in such cases, the circumstance should not be overlooked in relation to its beneficial results, that it is not merely the loss of motion in a joint which constitutes the evil to be corrected, but it is also the mal-position of the limb. If therefore the operation should be performed, and the surgeon fail to effect the establishment of a new joint, in consequence of the tendency to ossific re-union, the lesion of the bone will enable him to place the limb in that position best suited for convenience and usefulness before consolidation shall again take place. The patient thus, in either event, will be compensated for his suffering—in the one instance by the services of a joint, or in the other by a removal of that distortion, which, in the lower extremity, would compel him to use crutches, or in the upper, deprive him of many of the offices it would be capable of performing in a more favourable position of the limb."

For an account of this operation, see p. 498, April No. of Recorder, 1827.

Art. III. *The New York Medical and Physical Journal, for October*, 1827.

The first article is a continuation of the translation from the Surgical Anatomy of Velpeau, by Dr. Sterling.

Dr. Samuel W. Moore details a case in which Read's apparatus was successfully employed for extracting laudanum from the stomach—a description of the apparatus is also given. In our number for October, 1826, a description of an apparatus for this purpose was given by one of the Editors, which seems to possess a decided superiority over the instrument of Read, and which only requires to be more generally known, in order to be more generally employed.

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1. Datura Stramonium.—Dr. Kirckhoff, in a letter to Dr. Van Rensselaer, details his experience of the use of stramonium in chronic Rheumatism and Neuralgia. Dr. K's. method of employing it internally, is in the form of an extract prepared from the leaves, commencing with one or two grains, every twenty-four hours, "daily and gradually augmented until it produces vertigo, dimness or difficulty of sight, dryness in the throat, and dilatation of the pupil;" externally, in the form of a cataplasm composed of the leaves, applied to the parts affected, or, these gently rubbed with the tincture.

Dr. K. also states that he has used the prussiate of iron in Epilepsy, (commencing with very small doses, gradually augmented to six or eight grains daily,) with very great success.

2. Epidemic Fever.—A short notice of an Epidemic Fever, which prevailed in Java, in 1825--6, is given by Dr Kirckhoff. In general, the disease offered, according to M Blume, Commissary of Health, for Netherlandish-India, "a nervous asthenic character. Although the fever, in its onset, assumed the remittent type, it was not unfrequent for it to become intermittent, or rather it would be made to undergo this change by an appropriate treatment."

In the commencement, the treatment consisted of small doses of sulph. sodæ or magnesia, and the young leaves of the Cassia alata (Daun kupan kimanila) in decoction. Emetics produced diarrhœa; bleedings were hurtful, as also the prolonged use of mercurials. To strengthen, a decoction of the *Cedrela Febrifuga* and *Alyxia Reinwardtii*, were employed; and as stimulants, infusions of *Chloranthus inconspicuus* and *Valerian*.

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3. Disease of the Jaw.—Professor J Augustine Smith was called to visit Dr. Chambers, the proprietor of the celebrated remedy for intemperance, who, about 12 days before that time, was attacked with excruciating pain in the lower jaw of the right side; for ten days there had been no fever, no soreness, and no swelling; within the last two days, the part assumed, externally, the appearance of a common gum boil—a tooth, supposed the cause, was extracted without pain. He had been leeched, puked, purged, blistered and the gums scarified. His face was now slightly swollen; he was delirious, and spitting what appeared to be a solution of grumous blood; his pulse moderate, and skin cool. Opium externally and internally, completely relieved him, and the next morning he arose, with the intention of attending to his business. In the afternoon, the pain, delirium, &c. returned with increased violence; the inflammation extended to the eye, and became erysipelatous in appearance, and notwithstanding active treatment, he expired the next day.

Dissection—"Upon laying bare the lower jaw, I found it dead, and denuded of its periosteum from the root of the coronoid process to the posterior bicuspid tooth. Points of incipient suppuration were discovered in various places, and the masseter muscle was converted into a substance resembling hepatized and partially suppurated lung. Pus occupied the situation of the submaxillary gland, and all the contiguous parts were greatly diseased. The effused fluids were so acrid as to act on my instruments like an acid."

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4. Worms.—The case of a child aged two years, labouring under evident symptoms of worms, is related by Dr. Farrar. Anomalous symptoms occurred, and the child died convulsed. On examination after death, an immense number of round worms were found in the stomach and intestines, and on elevating the right lobe of the liver, the head of a worm projected from it, which upon extracting discovered eleven more, partly in the sinus, and partly in the gall bladder. This case is nearly similar to one published in the Medical Recorder, by Dr. Macaulay, of Baltimore; in this case, the abdominal parietes ulcerated, a number of worms were discharged, the part gradually healed, and the patient recovered.

There is now a preparation in the cabinet of professor Gibson, of a liver completely filled with long round worms, but we are unacquainted with the history of the case. In all of these cases, the worms must have gained access into the liver and gall bladder from the duodenum by the ductus communis, thence by the hepatic and cystic ducts.

Some remarks on saliva, and food, conclude Dr. Farrar's communication.

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Drake on the modus operandi of medicines, from the Western Medical and Physical Journal, and a Report of diseases, treated at the New-York City Dispensary, conclude the original department of the Journal.

ART. IV. *The Philadelphia Monthly Journal for July, August, September and October*, 1827.

1. The first article by the editor, entitled "Remarks on the influence exerted by the Exercise of the intellectual faculties on the organization of the Brain," does not come within the scope of our province; we therefore pass to matter of more practical importance.

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2. NECROSIS.—The peculiar views of Professor Smith and his mode of treating this disease are contained in the following quotation:

"Necrosis, on the larger limbs, is somewhat analogous to the felon on the finger, where the parts beneath the strong fascia of the part are inflamed. In both cases a fibrous membrane is concerned, and, as in felon, an incision carried through the fibrous membrane to the extent of the inflammation, stops the further progress of the disease—so, in necrosis, when the soft parts, with the periosteum, are divided, the disease is cured. The treatment, after the incision, both general and topical, should be such as we recommend in cases of simple incised wounds, attended with considerable inflammation: excepting that we should not try to approximate the edges of the incision by adhesive plasters, but dress them with simple applications, such as lint, spread with simple cerate, and evaporating lotions applied to a considerable portion of the limb, at least as far as the inflammation has extended. The general treatment consists in cooling purgatives, nauseating doses of antimony, and opium sufficient to allay irritation and procure rest."

He divides the disease into three stages, the first is inflammation of the bone and periosteum, the second when matter forms underneath the periosteum, and the third when the matter has escaped from beneath the periosteum and is lodged in the surrounding soft parts. The first is to be treated by incision through the periosteum, the second by removing portions of the bone by means of the trephine after the incision has been made, so as to let out any matter which may form within the walls of the bone, thereby preventing its death. The last stage is mostly accompanied with a death of the bone and requires the removal of the *sequestra* either by the efforts of nature or artificial interference. In describing the process, he gives some useful directions in relation to the operation, which we cannot detail.

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3. VENOUS ABSORPTION.—Some experiments were performed by Dr. C. Luzenburg and Mr. Mailliard, which are of an interesting character.

Both extremities of the stomach were included in ligature together with the gastric portion of the eighth pair of nerves and those from the solar plexus. Under these circumstances the prussiate of potash was abundantly absorbed and detected in various parts of the system. In the next experiments, which were performed on cats, the abdomen was opened and the pyloric and cardiac extremities of the stomach included in ligatures and divided, the peritoneal attachments were then all dissected away, so that this organ retained its connection with the system only through the medium of one artery and one vein, and by these the circulation was observed to be kept up. The prussiate of potash in solution was then carefully conveyed into the stomach by means of a tube. The incision was finally closed by sutures, and the animal lived two and a half hours. When killed it presented the following phenomena:

The tincture of the muriate of iron applied to the blood of the vena portæ produced a strong blue colour, blue patches were produced when it was applied to slices of the liver, to the heart, and most strikingly to the cut surfaces of the kidneys. When the external surface of the stomach was dashed with the tincture very little of the blue colour was apparent, proving that these phenomena were not produced by transudation.

To determine the comparative activity of the lymphatics, the principal arteries first, and then the principal veins, were secured by ligature; the circulation being fully carried on by the small vessels remaining. The prussiate was introduced as before, and at the expiration of two hours and a half the animal was killed. The prussiate could no where be detected by the most careful application of the test, except in the strangulated veins of the stomach, where it was found in obvious quantity, they being much distended with blood. This, as well as the foregoing, was repeated several times, with the same results. From this experiment, which was performed at the suggestion of Dr. Smith, he infers that the fluid part of the aliment is absorbed and carried into the circulation at once by the veins of the stomach, that the liver performs the function of assimilation by separating any crude and saline substances from the portal blood which may be thus introduced, furnishing the material of bile.

The more solid food is converted into chyle by the digestive process, in the formation of which, bile performs an important office, and is absorbed and conveyed into the circulation by means of the lacteals and thoracic duct.

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4. Abuses in Medicine.—The next article is "on the uses and abuses of tartrate of antimony, by Dr. Smith." It cannot be doubted that essays of this description are well calculated to put practitioners on their guard when using such powerful drugs as are at present familiarly employed. Volumes might be written on the abuses of medicine and surgery; and perhaps a work of this nature, where the dark catalogue of medical errors could be properly portrayed, by awakening the practitioner to a just sense of the awful responsibilities of his profession, and enabling him to shun the dangers on which his predecessors have blindly and ignorantly rushed, would be of incalculable benefit, not only to himself, but to those who may be placed under his charge.

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5. Extra-uterine fœtation.—A case of this nature, in which there was also natural pregnancy at the same time from which the woman was safely delivered, is communicated by Dr. H. Detwiller. The location of the extra-uterine fœtus was in the ovarium of the left side.

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6. Epistaxis.—Art. 1st of the August No. is an Essay on the Pathology and Treatment of Epistaxis, in which a novel method is laid down in accordance with the pathological views of the author, which we have not space to narrate. The mode of treatment is given in the following case:

The patient was aged thirty-five, of intemperate habits. The attack had existed for 24 hours before he was seen by the reporter, who found the patient bleeding freely; the extremities were pale and cold, and the skin generally exanguious.

A pediluvium of brine was directed, and the extremities and surface to be bathed with warm brandy, to which was added one fourth part of the tincture of cantharides. (These means tend to equalize excitement and operate by revulsion.) Tinct. Digit. Purp. gtts xxx, one in two hours, and an enema containing salt to be immediately administered; food to be farinacious. At the end of eight hours the hemorrhage had ceased; had a passage, consisting chiefly of blood; could as yet take no food; frequently retched; at times slightly delirious. Enema to be repeated; frictions continued and a blister to be applied to the back of the neck; still some pain and throbbing in the head. In twelve hours bleeding had recurred but soon ceased spontaneously. The stomach seemed remarkably debilitated and irritable, for which table-spoonful doses of infus. quassia were given every hour. When the stomach became calm, a gentle aperient was administered and the symptoms gradually abated, resulting in recovery. Opium is also recommended, but we cannot state the grounds of the practice.

7. A COMPOUND OF IPECAC. AND CALOMEL is recommended as a substitute for Tart. Antimony, as embracing its emetic and alterative properties without its deleterious qualities, in all affections where these conjoined qualities are indicated. It is worthy of a trial.

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8. DISLOCATIONS of the shoulder and femur have been reduced, the first by Professor Smith of New Haven, which had been displaced seven months; the second by Dr. MORRIS of Ohio, after it had been three months displaced, without any other mechanical means than the hands of assistants.

A convenient mode of reducing dislocations of the humerus was practised by Dr. Belville of Trenton on a patient who was refractory from intoxication. He was placed on his sound side on the floor, and to effect counter-extension and confine the patient, he passed a folded sheet under the dislocated shoulder and directed assistants to stand on it on either side of the patient so as to confine him down He then grasped the wrist and made extension upwards, which can be done with peculiar advantage in this direction. Counter-extension being made upon the scapula by the hand of an assistant, the luxation was without difficulty reduced.

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9. CIMICIFUGA RACEMOSA, or Black Snake root, has been used with great benefit in a number of cases of Pulmonary and other diseases, by Dr. Mears, the details of which constitute his Inaugural Essay For more particular information respecting this indigenous article of the Materia Medica, we must refer to Dr. Garden's paper published in this Journal, Vol. vi p. 609, et seq.

Dr. Smith offers some observations on the influence of change of climate upon pulmonary affections, which are not of a sufficiently interesting nature to require further notice.

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10. CHOREA CURED BY IODINE.—Dr. Peltz relates an interesting case of this nature. He was led to use the Iodine from the following pathological views. He supposes the disease to be seated in part, if not altogether in the *tunica Arachnoidea*. It may be divided into *acute* and *chronic*. The acute consists in active inflammation of the above named membrane, and the chronic in a thickening of the same, being a consequence of the acute stage, which yields to local and general active depletion, and the antiphlogistic regimen. It is to the chronic form that Iodine is applicable.

In the case before us, Dr. P. directed 15 leeches to each temple. Salts to procure free alvine evacuations With pediluvium and sinapisms: the leeches and salts to be repeated every other day, and the pediluvium and sinapisms every day for ten days: a blister was applied to the back of the neck and kept open.

Frictions of turpentine were employed with some effect along the spine, and continued for some time. Under this treatment the improvement was slight. When Dr. P. thought that the chronic form had supervened, he prescribed Tr. Iodine in doses of six drops, three times a day, which was gradually increased to 24 drops three times a day. Under this plan, she improved, and at length completely recovered.

11. CANTHARIDES IN GLEET.—In some remarks on the treatment of Gleet, by G. B. M'Knight, M. D. Tr. Cantharides is recommended for the cure of gleet, which he has succeeded in effecting, in every case to which his attention has been directed. When the discharge in gonorrhea assumes a light straw colour, he prescribes 6 drachms of Tr. cantharid. to 2 drachms of Bals. Copaibæ, dose, 10 drops morning and evening, gradually increased until a cure is effected, which is generally in a few days. When the discharge becomes white, constituting gleet, he employs the Tr. Canth. alone, (or blended with balsam to disguise the remedy,) commencing with 15 drops three times a day, and cautiously increasing until cured. In obstinate cases, Ol.

Terebinth. is a useful auxiliary. Chalybeates, with a generous diet, are highly proper. In very obstinate cases the Empl. calefaciens applied to the lumbar regions has been attended with happy results.

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12. Tobacco Ointment for Indolent Bubo.—Several cases of this nature are detailed by Dr. Graham, of New York, in which the Tobacco Ointment, in the course of a few days, entirely dispersed them, after they had resisted other modes of treatment for months. The mode employed, is to rub in the size of a walnut of the ointment over the bubo three times a day.

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An essay on the suppression of Hemorrhage, by Dr. Smith, of Yale-College, is too lengthy, and contains nothing of such moment as to requre analysis.

The same may be said of the Editor's essay on the Pathology of the digestive organs.

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Dislocated Humerus.—Another case, reduced ten and a half months after displacement, without mechanical apparatus, is communicated by Professor Smith, of Yale.

13. Death from Lead, which was swallowed in the form of bullets, two in number. Peritoneal inflammation resulted, and a fluctuation was felt. After death, one of the bullets was found near the anus in the pelvis, on the right side, at the termination of a fistulous canal, extending to the colon, which was perforated below. This canal contained pus and fæces. The bullet was evidently making its way into the rectum, which would have been accomplished, had the patient survived.

An abscess also formed and broke in the left groin, where the other bullet in all probability would have been found, had search been made for it.

This case is detailed by the Editor.

Art. V.—*The Western Medical and Physical Journal from July to October*, 1827.

1. Chorea.—Dr. Drake relates the case of a girl, aged 12 years, who from early infancy had been the subject of Chorea Sancti Viti. This case is given to illustrate, 1, that chorea is sometimes congenital; 2, that it may continue for years without being sustained by disorder in the nutritive functions; and may ultimately *produce* an unhealthy state of the digestive functions; 3, that the function of volition may be disordered, and intellect and sensation remain unimpaired; 4, that the laws of the muscular system of locomotion may be infringed, and those of respiration escape; a proof of the existence of a distinct system of respiratory nerves; finally, that a principle of hereditary disease may display its effects in *different* organs, in the various members of a family.

2. Epidemics.—Dr. M'Pheters gives an interesting account of the autumnal epidemics of Missouri as they appeared in 1819, 20 and 21; they partook of the intermittent and remittent varieties. We need not enter into the minutiæ of detail; the treatment adopted by the doctor was judicious, and rendered more particularly interesting from his having extensively employed some of our indigenous articles with better effect than the ordinary remedies usually employed. As a substitute for the ordinary cathartics he made use of an extract of the white walnut bark (*Juglans cinerea*). A spirituous

tincture of the May apple root, (*Podophyllum peltatum,*) and the Blood root, (*Sanguinaria canadensis,*) powdered. "The extract reduced to the consistence of honey, and combined with jalap, ipecac, and Castile soap, operated admirably These articles appeared to have these advantages over all others —First: That if administered in sufficient quantities, they never fail to operate Second: That in large doses, they never occasioned troublesome sickness, griping, nor any other bad symptom. Third: That they never produce watery fœtid stools, nor reduce the strength of the patient. Fourth: That in a peculiar manner they allayed irritation. I soon found that this extract could be so combined as to fulfil any indication that existed, much more satisfactorily than any other medicine, and indeed it cured several tolerably bad cases of the fever in a shorter time than usual."

The acid of Sumach berries (Rhus Glabrum) was found to make an agreeable and useful drink for febrile patients; it was prepared by immersing the berries in cold water and adding sugar.

From a notice of the peculiarities in the action of the white walnut we select the following:

"Its action is peculiar, in relieving irritation, exciting secretion, and preserving the strength of the patient. It frequently acts as an anodyne; affording the restless patient a good night's rest, and not operating as a cathartic till morning. In dysentery it allays pain, relieves tenesmus, stops the frequent discharges, and produces ease. In autumnal fevers, it effectually brings away morbid secretions, without irritating the viscera, and disposes the parts to a healthy action. In dyspepsia it relieves cardialgia, prevents acrid secretions, and keeps the bowels gently open. Finally, in obstinate constipation it operates as thoroughly and certainly as calomel, or the drastic purgatives, without occasioning the sickness and irritation which they excite."

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3. Modus Operandi of Medicines.—The number for August contains an Essay by Dr. Drake on this subject. This paper, though not containing any novel views, is nevertheless highly interesting and valuable, as displaying sound reasoning from careful and judicious observation. As we wish to confine ourselves to matters of practical import we regret the necessity of omitting an analysis of this essay.

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4. Iodine.—Under the head of Intelligence we are informed that Dr. Wright prescribed the tincture of iodine in a case of disease of the heart, and by persevering for a few weeks, the patient was so far restored as to render further use of the medicine unnecessary. We should like to see a more particular detail of this case.

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5. Cramp of the Stomach.—In the September number Dr. Drake makes some remarks on the nature, prevention, and cure of that condition of disease produced by Tartar Emetic. It is unnecessary to enter into the detail of the symptoms which result from taking this medicine in excessive quantity, or from some peculiarity or idiosyncrasy in the patient, even in the ordinary dose.

Two different conditions of disease are the result of emetic tartar, when it produces bad effects. In the first, the epigastrium is rendered extremely tender to the touch, and the gastric contractions are attended with a pain, which is sometimes excruciating. The stomach is then said to be *cramped;* and this condition may either cease spontaneously; be promptly cured by judicious treatment; but sometimes it proves fatal in a short time, in spite of all that is done; and if it should not terminate in recovery or death within a few hours, "irritation is converted into inflammation, and a true *Gastritis* supervenes."

The treatment of the first stage, or cramp in the stomach, consists of antispasmodics and stimulants, internal and external; the following are enume-

rated: hot water and spirit, taken liberally; laudanum, calomel and opium; volatile oils; cathartic enemas; warm bath; hot fomentations, and lastly astringent vegetable infusions. If the patient survives the first stage, and the second, or inflammatory supervenes, it requires great caution not to continue the stimulating treatment, otherwise irreparable mischief will be done; the strictest antiphlogistic plan is then to be pursued.

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6. Modern Travelling.—We read the paper by Dr. Drake, entitled "Thoughts on Modern Travelling," with very considerable regret. Whilst we sympathize with our friend, in the numerous difficulties he has necessarily been compelled to encounter in a long and tedious journey by steam boats, stage coaches, and canal boats, we sincerely rejoice that he has safely returned to his home, his family and his friends. We have said that we read this paper with *regret*; regret *only* that the picture he has drawn of modern travelling (and although no great travellers ourselves, we can vouch for the truth of it) will, we fear, deter him from venturing on a similar undertaking, and thus debar us of again enjoying the pleasure of his company around our social circle.

Some highly judicious directions are given for travellers, and the following observations are important and deserve consideration:

"Of all the seasons of the year, our autumn is most inviting, but at the same time, the most dangerous to travellers. After some experience, and many opportunities for observation, I am convinced, that those who travel are much more subject to autumnal fever, than those who remain in one place. I could cite many melancholy cases, in support of this assertion, but will refer to one only. An emigrant lady resided ten years in the western country, without travelling in autumn, and without an attack of fever. She then undertook a journey in September, and was soon arrested by a severe bilious fever. Eight years afterwards, while travelling a second time, in August, she experienced a second attack; and two years subsequently, soon after a third journey, she was invaded a third time by the same malady, and became its victim.

"Of the different months, July, August, September, and the first half of October, are most to be dreaded. April, May and June, the latter part of October, and the first part of November, on the other hand, are nearly exempt from febrile diseases; and, although in some respects inconvenient, should be preferred to every other portion of the year."

ANALYSIS

OF

FOREIGN JOURNALS.

ART. VI. *Archives Generales de Medecine.* Paris.

The number for September, 1827, begins with an article by M. Blaehe, entitled, *Practical Observations made in the Hospital of sick Children under the care of M. Guersent.*

This hospital admits children from two to sixteen years of age. It is the only establishment of the kind in France, and probably in the world. From 2,600 to 3,000 patients are usually admitted every year. Notwithstanding the greatest care, and well known talents of M. Jadelot and M. Guersent the physicians, the mortality is deplorably great, about one fourth of all that are admitted dying. Every disease of children is usually to be found here, as well as most of the maladies of adults; but acute affections of the lungs, and complaints of the bowels, are among the most frequent.

The principal thing of notice in this article is, the successful employment of *tartar-emetic*, in large doses, in the treatment of pneumonia. After bleeding two or three times pretty freely, by venesection and leeches, M. Guersent administered from six to twelve grains of the tartrite of antimony, dissolved in some demulcent drink, in the course of twenty-four hours. He had previously employed this article, in this way, not much to his satisfaction; and from the former numbers of the *Archives*, it seems to have obtained but little reputation in the other hospitals of Paris, though it had been highly recommended by some Italian and other continental writers. The success of M. Guersent during the first quarter of the year 1827, leads to the inquiry, what was the *variety of pneumonia* in which he found tartar-emetic to be of such utility? From a pretty accurate examination of the *three* cases that are detailed, the patients appear to have been between nine and fourteen years of age, and to have laboured under a variety of the disease, which is intermediate in violence, and severity, between the pleurisy of Cullen, and the lower grades of pneumonia-typhodes, which of late years have been common in some parts of the United States. In other words, it was that description of acute pulmonary affection, which in our country is generally treated very successfully, (after there has been due preparation by bleeding; and evacuations from the alimentary canal, as circumstances demand,) by calomel and opium, seneka, sanguinaria, &c with free blistering.

The second article is, *A notice of the utility of the compressive bandage in phlegmonous erysipelas of the limbs, by M. Guerin.*—We observe nothing in this of very peculiar interest or novelty to the readers of the late medical journals. For an account of this disease and its appropriate treatment, see page 367 of Med. Recorder, No. XL.

ART. 3. *Observations upon cerebral congestions in children,* by M. Guibert. —The author observes, that true apoplexy from an effusion of blood in the brain, is very rare in children, but that what the French call *coup de sang*, or apoplexy without sanguineous effusion, is very frequent in dentition and many other diseases, and very often fatal. After some very pertinent observations upon the disposition in children to cerebral affections and convulsions

they are divided into different classes according to the degree of severity. The treatment principally relied on is, leeches about the head, enemata, demulcents, emollient cataplasms, and tepid bathing. Blisters appear rarely to be resorted to, and calomel seems not to be employed at all. In one or two instances, a few drops of laudanum were added to the enemata. The following appearances upon dissection in one of the fatal cases, after stating the symptoms of the disease, we shall transcribe.

"A child of eleven months old, of a delicate constitution, (four of his teeth having already appeared,) had for eight or ten days been subject to a diarrhœa, and to a slight fever in the afternoon; his tongue was whitish, and he had spontaneous vomitings of a glairy matter. January 27, he became very drowsy; the diarrhœa was succeeded by constipation, face red, and bloated, eyes shining and occasionally agitated by slight convulsions, pupils immoveable, skin hot, pulse small and frequent, respiration hurried. Two leeches were applied to the neck, sinapisms to the feet, and several enemata were administered. In the mean time, the comatose state increased, stronger convulsions supervened, and the child died at the end of two days.

"Inspection of the body. A very manifest injection of all the cerebral vessels: the sinuses of the dura mater were all gorged with blood: the brain, in the various incisions that were made in it, appeared dotted (so to speak) with red points, and was rather soft; there was but little serosity in the lateral ventricles; the cerebellum was sound, as well as the meninges. The lungs and heart were in a natural state. Some of the small folds upon the internal surface of the stomach, were rose-coloured. Similar rose-coloured spots were found in the ileum, which contained liquid bilious matters. There was a tumefaction and redness of many of the mesenteric glands. Every thing besides was in the ordinary state."

The fourth article *Application of the ectrotic (exterminating) treatment to the primary symptoms of syphilis*, by M. Ratier.--Upon the very first appearance of chancres, they were obliterated by caustic, and corrosive sublimate was employed internally for a considerable time. The patient escaped any further venereal symptoms. There is nothing novel or peculiar in this practice.

The fifth article relates some very interesting experiments made by M. Bouillaud upon various animals, in order to ascertain the peculiar functions of the cerebellum. Such researches throw light upon physiology and pathology, but the article is too long to admit of our inserting it entire, and any abridgment of ours would hardly do justice to such a series of experiments.

The sixth article is entitled, *Sudden death preceded by symptoms of dissolution of the blood in a woman, towards the close of the period of utero-gestation; cesarian operation after death; as reported by* M. Stoltz.

The child, upon the first view of it, had evidently been dead for several days; and as the editors very justly remark, the disease of the mother was a petechial fever, and not a case of purpura hemorrhagica.

The seventh article contains the report of Messrs. Fauthier and Bertrand, upon the appearances upon dissection of the body of a man who had died soon after he had received a blow upon the epigastrium, which left no marks of violence either externally or internally. A very rapid change, however, had taken place in the blood. There was a sero-sanguineous effusion in the cavity of the abdomen, and the cavities of the pleura contained a *litre* of liquid blood, in which there were floating oily, fat bubbles, perfectly liquid.—The bronchia were filled in the same manner, and there was besides a soft coagulum in the lower part of the trachea and the bronchial ramifications. In the subclavian, jugular, crural, and saphena veins, the blood was partially coagulated, with oily bubbles. The subject had been intemperate, though he enjoyed good health.

The department of Foreign Medicine contains, first, an extract from a *Dissertation upon the passage of the blood through the heart*, by David Barry, M. D.

Secondly, History of a congenital cyanosis, (Bluechild,) extracted from a publication at Berlin, 1827. The subject lived till he was thirty-five years of age, was married, and the father of five children. He had been affected with anxiety, extreme agitations, palpitations, and paroxysms of asthma, and even syncope. During these attacks, the blue colour of his skin would change to black, and he would have the coldness of a corpse. The principal phenomenon that was observable upon dissection was, that there was no partition between the right and the left ventricles of the heart.

Thirdly, *An account of the employment of the proto-nitrate of mercury*, by Dr. Sundelin of Berlin. The following is the method of preparation: Take of pure metallic mercury, pure nitric acid, simple distilled water, each 1 ounce. In a glass vessel unstopped, let them stand in a cool place, till crystals are formed. Wash the crystals thoroughly in distilled water, and keep them in a glass vessel closely stopped. The author begins with a dose from a sixteenth to an eighth of a grain, and according to circumstances increases to a grain twice a day. He prefers the form of pill. This he employs as a substitute for corrosive sublimate, and prefers it to that preparation.

Varieties—Under this head are included medical intelligence, notices of books, discoveries, improvements, &c.

In August, during several sittings of the *Royal Academy of Medicine*, the voluminous reports of Dr Chervin upon *yellow fever* were under discussion, and appear to be far from being brought to a close.

Mr. Rullier received a medal of the value of 500 francs, as a prize for his essay upon tubercles. This subject was the cause of a pretty animated discussion at several sessions of the medical *section*, and notwithstanding the premium awarded to M. Rullier, was continued for the prize of 1828, proposed in the following terms: "To give the history of tubercles with the relation of their origin, of their structure in the different organs or tissues of organs; to show by observations and experiments whether their existence can be ascertained, and their developement be prevented, as well as the disorders which they undergo or those which they occasion." The subject for the prize of 1829, is, "to determine what are the diseases which, being not essentially contagious, may yet become contagious, and to investigate the causes which may produce the contagious character and cause this variation."

M. Espiand read a report of the successful employment of the bark of the root of the pomegranate in a case of tænia. Three ounces of the bark were boiled in a pint of water to three glasses. One of these glasses was taken in the morning, and the dose was repeated at each of the two succeeding half hours. Two ounces of castor oil were administered in the evening. The tænia was readily expelled, and health restored. The dose of the pomegranate was however larger than necessary, two ounces of the bark being usually sufficient.

M. Mergant made a report upon an epidemic in the department of Vosges in 1826. Disease not stated.

M. Orfila, upon the subject of forensic medicine, made some remarks upon spots of blood. He also read a memoir upon spots or stains of semen, spots of grease, spots of the matter of gonorrhea, spots of leucorrhea, &c. To one who possesses the nicety of observation and experiment of M. Orfila, such investigations may be interesting, but they can be of but little service to the bulk of physicians, and we should suppose of but little avail in a court of justice, or before a plain American jury.

Various other topics in surgery, pharmacy, and chemistry, were discussed at the sessions of the several *sections* in the month of August; but the preceding specimens are as much as our limits will well admit.

At the session of Sept. 10, M. Geoffroy presented the memoir of Dr. Rambur of Ingrandes upon a monstrous child yet living, who was born at Benais in Touraine August 30, 1826.

The account of the Chinese young man, who a few years since was frequently seen by the Europeans at Canton, must be recollected by all our readers. He was well formed in every particular, except that there was attached to the epigastric region a body of the size of a full grown infant at birth, with the head wanting

The monster of Benais, like that of Canton, belongs to M. Geoffroy Saint Hiliare's genus of *heteradelphe*, both monsters presenting the phenomenon of an infant attached to the body of another person. There exists, however, this difference between these two cases; in the Chinese monster, the infant appended is without a head, whereas in that of Benais the head is perceptible though not fully developed, and its limbs are more complete, its hands being perfectly formed. There were but three fingers on one hand and two on the other in the appendage to the Chinese.

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The new publications noticed in the number for September are, a work upon midwifery by J. P. Maygrier, a treatise upon the aponeuroses by A. Paillard, new medico-surgical elements of pathology, by Mess. Roche and Sanson, and a treatise upon lithontritia or the trituration of the stone in the bladder, by Dr. Civiale. From the notice of the last of these works we transcribe the following description of the process of lithontritia, with some of the remarks upon this subject made by M. Velpeau.

"The subject is placed on his back with the nates slightly raised upon a cushion; an ordinary catheter is first introduced and by it from six to twelve ounces of an emollient liquid are injected, in order to distend the bladder. The forceps, as modified by Alphonse Ferri, armed with a lithontritor, terminated by a head in the form of the crown of the trepan, is carried firm in the place of the sound; arrived in the bladder, the forceps are opened by partially withdrawing the canula which serves as a sheath for them and the lithontritor which separates their branches; the stone is then seized, and secured by crowding back the canula, or by drawing the forceps of Alphonse; now if the stone is small or pliable, it is ordinarily sufficient to press the lithontritor with the hand to break it; but if it is otherwise, after having fixed the apparatus to a lathe, it is turned with a bow. [In the same manner as dentists and other artists turn a drill.] The calculus being perforated, it is let go and seized again, so as to present a different part of it, to be perforated again; if it is broken, the different fragments are taken and triturated in the same manner. As soon as the patient or his organs are fatigued, the operation ceases; at the end of three, four, or five days it is resumed.

"It is certain, that all the circumstances of this operation are more simple and easy than is generally supposed. A straight instrument three lines, three lines and a half, and even four lines in diameter, almost as easily passes through the urethra as an ordinary catheter; besides, in particular cases, and always in infants, smaller instruments are to be employed. The apparatus is so guarded, that it is almost impossible to catch or injure the bladder, and the stone is so easily seized, that I have seen M. Civiale let go his hold, take it again, and turn in every direction the pieces of it, with as much facility as if he had operated in an open vessel. It is equally impossible to wound the organs of the patient with the lithontritor, and while drilling with the bow, provided the apparatus is well supported, the jar or shake is scarcely felt."

M. Velpeau concludes by remarking, that lithontritia must be admitted into the number of the most brilliant operations of good surgery; that under most circumstances, it ought to be attempted previous to having recourse to lithotomy; and that the latter operation would be much less frequent if recourse should be had to the former as soon as the first symptoms of calculus are perceived.

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Further extracts, &c. upon the efficacy of the *tincture of datura stramoni-*

um in *Neuralgia*, by M. De Kirckhoff. Extracted from the *Archives Generales* of July, 1827.

"The internal and external employment of *datura stramonium* in the treatment of chronic rheumatism, has been for a long time prescribed with success by M. De Kirckhoff; observations sufficiently numerous have also proved to him, that the tincture is very efficacious in Neuralgia. We will relate a few examples which have been transmitted to us by this physician.

Case 1.—A lady had for nine months experienced, without interruption, excruciating pain from a maxillary neuralgia, caused as was supposed by the extraction of two molar teeth. The patient had lost the sight of the eye, and despaired of relief in consequence of the failure of the means which had been prescribed by a great number of physicians. She had decided upon having the nerve divided; but when she consulted M. De Kirckhoff he, rather than the operation, advised the tincture of stramonium, recommending the patient to rub the cheek with it from ten to fifteen times a day. There was a decided mitigation from the first day, and the improvement was so rapid, that in five or six days the cure was complete.

Case 2.—A man exhausted by debauchery and an old syphilitic complaint, had been affected for fifteen months with a very acute frontal neuralgia. M. De Kirckhoff employed the tincture of stramonium in friction, and in a few days the pain entirely ceased. Two years have passed since the cure, without any relapse.

Case 3.—An ancient military gentleman had been for a number of years subject to a neuralgia in the foot. He began the use of the tincture of stramonium by friction over the seat of the pain, and in the space of a fortnight he was entirely cured.

Case 4.—A lady of rank, the mother of a family, had been for nearly two years tormented with a maxillary neuralgia. The materia medica which is usually employed in such cases, had been exhausted without benefit. M. De Kirckhoff being consulted, wished to discover whether belladonna, which has been so much extolled in neuralgic affections, might not be substituted for datura stramonium. Compresses wet with a very strong solution of extract of belladonna, were applied to the cheek, and were continued two days, without the least mitigation. He then had recourse to friction with the tincture of stramonium; after thirty frictions the pain disappeared. Since that time, [the length of the period, however, is not stated,] the patient has had good health and no return of the disease.

When frictions with the tincture of stramonium are employed, they should be continued for some days after the pain has ceased."

The same number of the *Archives* contains an able account of the practice of M. Dupuytren, in the *dilatation of the urethra in cases of stricture*, by M. Michon. M. Dupuytren's talents are so highly appreciated in France, and so well known in America, that any account of his views and practice, however concise and imperfect it may be, cannot fail of being interesting to our readers.

"From numerous observations, M. Dupuytren has proved, that it is not only useless but dangerous, to attempt to surmount, by violence, a stricture of the urethra, in cases of mere dysuria; that violence ought only to be employed in cases of retention which are accompanied with very threatening symptoms; but that in all other cases, the bougie should be introduced very carefully into the urethra, or at least by its introduction only to remove so much of the urine as may enable us to gain time, that we may hereafter surmount the obstacle without employing violence. The process which consists in overcoming the stricture gently, patiently, and slowly, is certainly that which is most proper in a great majority of cases. Now, this dilatation can be performed in two very different ways. In the first, which is the one most generally practised, a bougie, which is very slender at its extremity, is introduced into the stricture, and by pressure upon the tissues which form the

obstacle, a dilatation is mechanically made. This is called by M. Dupuytren, the *mechanical* dilatation. In the second mode, which in opposition to the former, he calls *vital* dilatation, he does not introduce the bougie at all within the stricture; he stops when he comes to the stricture with a blunt bougie, and fixes it before it, waiting the effect which it must produce, and the change that must necessarily take place in the vitality or existing state of the organic tissues, with which the bougie has come in contact. This distinction is real, and M. Dupuytren has often proved to us, by incontestable facts and conclusive experiments, the necessity and importance of this distinction. Indeed, it has very often happened to him, after having fruitlessly presented to the stricture of the urethra the extremity of a very fine pointed bougie, without being able to introduce it, that he has then introduced a blunt catheter of elastic gum, the extremity of which, however, did not penetrate so far as the slender pointed bougie, and fixed it before the stricture. In six or eight hours after it had remained in this situation, it would pass it without difficulty, and reach the bladder with ease, requiring very little force of the hand to propel it.

Case 1.—*Stricture at the bulb of the urethra—dysuria—mechanical dilatation.*

Pino, aged forty-two, entered the Hotel-Dieu, Feb. 28, 1827, on account of a dysuria of ten years standing, which succeeded two attacks of gonorrhea virulenta, the latter of which had been followed by a gleet for twenty-two years. The jet of urine had diminished in volume by degrees, till it only flowed drop by drop, especially after drinking alcoholic liquors. Finally, the symptoms became so urgent, that he was induced to enter the hospital. The first of March, a bougie with a very slender point was introduced into the urethra, and it entered a stricture in the region of the bulb which held it so closely that it was with some difficulty retracted. The bougie was directed to be kept fixed in this place, and at the end of eight hours only a moderate force was requisite to introduce it into the bladder. March 4, a catheter of gum elastic, of medium caliber, was easily introduced; other catheters of larger size were after this easily introduced, and suffered to remain a considerable time. After following this process of mechanical dilatation for twenty-two days, the patient voided his urine freely, and in a full stream.

Case 2.—*Stricture—dysuria—mechanical dilatation.*

Dervoise, sixty-one years of age, of a medium height, and a dry temperament, had sixteen years before contracted a gonorrhea, which was followed by a gleet that continued until he entered the Hotel-Dieu, Feb. 19, 1827. The dysuria had been of two years continuance, and it had increased till the urine was only voided by drops, and with great effort. From the account given by the patient, it was presumed that there was a stricture in the urethra. A bougie being introduced which had a slender point, it was at first stopped by meeting a membraneous portion; a light pressure, however, made it penetrate through this obstacle, and the larger part of the instrument was introduced through it without great difficulty. This dilatation was continued twenty-four hours, when a gum elastic catheter of small caliber was employed. Five catheters of different sizes, beginning with the smallest, were successively employed, and one of them was kept in the urethra to produce permanent dilatation. On the thirty-ninth day a catheter of the largest caliber passed with ease, and the patient discharged his urine freely and in a full stream. No accident interrupted the cure.

Case 3.—*Stricture—dysuria.*—This was the first case of *vital dilatation* in M. Dupuytren's practice.

Mr. ———, of a very irritable, nervous temperament, eight or ten years since, applied to M. Dupuytren for a dysuria with which he had been harassed for several days. After many difficulties on the part of the patient, a blunt pointed bougie was introduced until it reached an obstacle in the urethra, which stopped its progress. The extreme apprehension of the patient prevented any further attempt, and the instrument was left fixed just before

the obstacle, without its entering the stricture. At the end of a few hours, M Dupuytren returned, and found that the patient had voided his urine without difficulty, and the bougie could be passed easily into the stricture. Some hours afterwards, the instrument could be introduced still further, and in the course of the day it reached into the bladder. From that time, catheters of the largest size were employed, the dilatation was rapid, and the patient was able to discharge his urine in a large and free stream, at the end of a fortnight.

After the event of this case, M Dupuytren was induced to turn his attention to the kind of cases to which this practice is more particularly applicable. It is in many instances the most proper treatment, particularly with the irritable and the timid, and it is not always necessary that the bougie should penetrate through the stricture, in order to complete the dilatation. From that date, he has met with several similar cases with the same success. We shall relate one or two of the more recent.

Case 4.—*Stricture of the membranous portion, with a very evident spasm of the urethra, and incontinence of urine—vital dilatation.* Colomb, aged thirty-six, entered the Hotel-Dieu, Feb. 6, 1827, labouring under a dysuria which had been progressively increasing for four or five months. The urine was discharged drop by drop, and when he ceased making an effort it continued moderately to distil from him without his being able to retain it. The sound having met with a hard stricture before the membraneous portion, a bougie was introduced as far as this obstacle, but the intractable patient withdrew it within an hour. In the evening a fruitless attempt was made to replace it, but there was so great a spasm of the urethra that it could not be carried further than the fossa navicularis, where it was closely locked by the parietes of the canal. For two days the same spasmodic state continued. M Dupuytren introduced and fixed in the fossa navicularis a bit of a large sound, rounded at the point. At first it remained stationary, but at the end of twenty-four hours it was introduced farther, and finally was replaced by a catheter of a medium caliber. This dilatation being continued twenty days, by gradually increasing the size of the catheters, the patient could void his urine freely in a large stream, when at the end of this period he was discharged. In two other cases in which the same symptoms were treated in the same method, the re-establishment of the course of the urine was completed, in the one, in twenty-two days, and in the other, in thirty."

Royal Academy of the Sciences. Public Annual Session, June 11, 1827. "From the fund of M. de Montryon, in favour of those who have perfected the art of healing, only two prizes were awarded; one of 10,000 francs, to Messrs. Pelletier and Caventon, to whom the art of healing is indebted for the discovery of the sulphate of quinine; the other of 10,000 francs, to M. Civiale, for having first practised lithontritia upon the living subject, and for having successfully operated by this method upon several calculous patients. Nevertheless, the Academy, for this time only, decreed medals of encouragement as follows. To M. Leroy d'Etiolles, 2,000 francs, for his exposition of the divers processes, which have been employed to this day, for curing the stone without having recourse to the operation of lithotomy. To M. Henri, 2,000 francs, for having perfected the art of extracting the sulphate of quinine, and for having very much diminished the commercial price of this article. To M. Rostan, 1,500 francs for his work entitled, Course of Clinical Medicine. To M. Gendrin, 1,500 francs for his Anatomical History of Inflammations. To M. Bretonneau, 1,500 francs, for his Treatise upon the peculiar Inflammations of the mucous Tissue. To M. Ollivier d'Angers, 1,500 francs, for his Treatise on the Medulla spinalis and its diseases. To M. Bayle, 1,500 francs, for his Treatise on the Diseases of the Brain and its Membranes. Finally, a sum of 1,000 francs to M. Rochoux, to aid him in

printing his Researches upon the different Diseases which are called Yellow Fever."

In the *Archives* for July, 1827, there is extracted from an Italian Journal, a paper by Dr. P. Porta, upon *the efficacy of tannin in chronic menorrhagia*, from which we transcribe the following. "A lady had been affected with menorrhagia for about a year, when I was called to attend her. The discharge had generally been small, not obliging the patient to keep her bed; but it has continued without interruption, and had caused great emaciation, with extreme debility of the digestive powers. Divers means had been tried; some of them had produced mitigation, but none a complete cure. The state of the pulse, which was strong and frequent, made me consider the menorrhagia as hypersthenic, notwithstanding its duration; consequently, I at first administered digitalis, which diminished very much the frequency of the pulse, without, however, lessening the quantity of the discharge. I then employed, after the example of Dr. Fenoglio, the powder of the leaves of the black muscat grape, in a dose of half a drachm, with a sufficient quantity of water. It was administered fasting, a second dose being taken within an hour. The action of the medicine was so speedy, that from the very day the menorrhagia ceased, and it has not since returned." Dr. Porta reports several other cases treated with pure tannin, concerning the employment of which he makes the following observations. "The chemical analysis of Dr. Fenoglio, of the leaves of the black muscat grape, led me to think, that they probably owed their efficacy to the tannin which they contained. I accordingly prepared some tannin according to the process of Proust, and prescribed it in the dose of two grains in pill, repeating it every three hours for three days." Several cases of the successful employment of tannin in menorrhagia are related, showing that it sits easy upon the stomach, and that it is well adapted to an irritable state of particular organs, and of the system in general.

ART. VII —*Bibliothek der practischen Heilkunde, Berlin*, 1 27.

1. CASES by Dr. C. A. Weinhold, Professor at Halle.

I. A large callus of the left femur, and a two-inch-shortening of the limb, cured by perforation and the introduction of a seton.

John X. R. of 18 years of age, broke, on the 21st of June, his left femur about its middle, and was treated in the usual manner by a neighboring surgeon, till the expiration of the fourth week, when, at the earnest solicitation of his employer, he was permitted to resume his labours in the fields. After a continued use of the limb for ten weeks, it became fully two inches shorter than the opposite one, and the callus acquired a size, fully equal to that of a new-born child's head. At this time the sufferer was unable to work any longer, and therefore compelled to quit his employment and to return to his destitute mother. There Dr. W first saw and examined him, and found the callus to measure 18½ inches in circumference. The cellular texture, both above and below the enlargement of the bone, was loaded with effused lymph, and in many places there were indurations of the soft parts, which ultimately suppurated and formed fistulæ. The disease was considered most unpromising, but notwithstanding, the limb was placed in a proper apparatus, and extension by means of pullies was made and persevered in for eight days without the slightest effect upon the callus. Three months had now expired since the accident first took place, and the callus was so firm that no mechanical means whatever could effect its elongation. In this state of things, the surgeon found himself obliged to abandon the patient to his mi-

serable fate, or to resort to some new and untried expedient for his relief. He accordingly determined to perforate the callus and pass through it a seton besmeared with stimulating substances, with the view of exciting inflammation and suppuration of the bone, and finally, to bring about a softening and absorption of the callus, and by a proper degree of regular extension, to restore the bone to its original length. To effect this Dr. W. on the 11th November, in the presence of several medical gentlemen adapted his needle-trephine to a turning bow, pierced the soft parts about an inch outside of the femoral artery, with the point of the instrument; which on reaching the callus was gently turned by the bow till it had perforated its external layers and then it suddenly passed through a cavity about four inches deep, before it reached the opposite side; which being bored in the same manner as the first, the point of the instrument was pushed through the muscle and integuments and the seton introduced. The hæmorhage attending this operation was so trifling that it barely amounted to a single ounce. During the first three days cold poultices were applied to the parts; on the fourth and subsequent days, the seton, anointed with the bals: Arceus, was moved through the wound twice each day. During the fifth week of the patient's confinement, the hardened cellular substance suppurated freely, the pus finding an exit by an opening above and below the callus. These fistulæ were cured by compression shortly after the induration of the cellular texture had disappeared. About the sixth week there was great pain of the callus, and the temperature of the part was much increased; these symptoms yielded in the course of forty-eight hours to cold poultices. In the seventh week the long desired suppuration of the callus took place, and on pressure with the finger there was evidently a large chasm in it, indicating the propriety of the immediate application of the apparatus for extension; this by the tenth week produced such an elongation of the limb that it was barely two lines shorter than that of the opposite side. For the sake of great security the seton was permitted to remain in the part till the twelfth week, at which time it was removed and the orifice healed. A few weeks after, the callus was greatly diminished, the patient walked without crutches, and the diseased thigh was as large and almost as natural as the sound one. The man after he had recovered his strength was enabled to earn his livelihood as a coachman.

II. Cure of artificial articulation of the left Tibia, the ends of the bone being united by a fibrous structure, with a deep seated suppuration of the calf of the leg.

J. C. N. fifty-two years old, by profession a coachman, had the misfortune, in descending from the coach-box, to fracture his tibia, one and a half inches above its articulation with the foot. The next day the limb was properly attended to and confined in a fracture box, but, probably in consequence of too much motion, after a confinement of eight weeks, it was discovered that an artificial joint and a collection of matter in the calf of the leg had been formed. At the particular request of a medical friend, Dr. W. was induced to undertake the treatment of the case, according to his new mode of operating upon, and of curing, artificial joints. This method differs from that of Dr. Physic in its being more active and certain in its operation. Wardrop publishes cases, in which Dr. P's. plan failed entirely, and Hutchinson was compelled to withdraw his seton without effecting a cure. After much reflection and observation, Dr. W. discovered that the inefficacy of the ordinary seton was owing to its exciting two slight an inflammation, and to its permitting the access of the external air to the long extremities; which, from that cause, are extremely disposed to become carious. Both these inconveniences are fully obviated by a funnel shaped wound, and a wedge-like seton. In this case, a wound of an inch long was made upon the external part of the tibia down to the artificial joint, and a tape being previously passed through the eye of the needle-trephine, this was made to perforate the artificial joint and pass on through the integuments of the opposite side, and

then the tape with the cuneiform seton attached, was drawn, till this last filled entirely the vacant space between the osseous extremities. The operation lasted at most but three minutes, and with the blood flowed a fœtid pus, which became much more abundant upon pressure being made upon the calf of the leg. It was evident that the purulent collection communicated with the artificial joint, and of course the probability of the adhesive process taking place was materially lessened, and the hectic fever which already prevailed, rendered the cure extremely doubtful. After proceeding so far, it was altogether impossible to leave the work half done, therefore an incision was made into the abscess, from which a very large quantity of fœtid ichor was discharged, and a colliquative suppuration followed, and nearly reduced the poor sufferer to the grave. Many physicians, at this unhappy time, recommended amputation as the only means of saving the patient's life; but feeling the greatest confidence in the resources of the art, Dr. W. rejected the proposition, and succeeded, by proper bandaging and tonic medicines, not only in stopping the suppuration, but also, by the end of the 13th week, in curing the artificial joint without anchylosis or stiffness of the ancle joint.

III. Cure of an artificial joint of ten years standing, with caries and fistulæ, effected by a treatment of three months.

J C. H. a peasant, 20 years of age, when ten years old, fractured his right femur about its middle, and was treated in the usual manner by a country surgeon. At the end of the fourth week, whilst his parents were absent, he got up and used the limb; the consequence was the formation of an artificial joint at the expiration of the eighth week. He, with the assistance of a stick, made out to move about with much difficulty, and was incapable of doing any duty but that of watching cattle, till he reached his nineteenth year, when, with the view of supporting himself, he engaged to do the duty of a stable boy, and soon, by his exertions, produced an inflammation of the artificial joint, which was succeeded by caries and a suppuration that formed two fistulæ posteriorly. It was under these circumstances that he was taken to Dr. W. for his aid. Upon examination, the two fistulæ were found to terminate an inch from each other in the carious artificial joint. They were both thrown into one by an incision, and the cuneiform seton was introduced in the same manner and by the same means as in the foregoing case. A re-action speedily took place; the suppuration became more healthy, and each day carious portions of bone separated till the termination of the sixth week, when long splints were applied, and the part got firmer daily till the twelfth week, at which time, the bone bending no more, the seton was reduced in size each day, and finally withdrawn altogether. In three or four weeks after this, the patient could walk well and was discharged perfectly cured.

IV. A man, forty years of age, was thrown from a horse with his right hip against a stone and fractured the neck of the femur, besides splintering the acetabulum. The surgeon, who was first called, considered the case as one of severe contusion, and ordered the part to be bathed with brandy. Three months after the accident, the patient was taken to Dr. W. who clearly ascertained, that an artificial joint had been established, and judging from the painfulness of the parts, he strongly suspected the existence of chronic inflammation and suppuration. The patient entreated the Doctor to attempt something for his relief, and the probability of success was deemed considerable, provided there should be no suppuration of the acetabulum or pelvis. The sufferer was laid on a table, with the right hip projecting about four inches beyond its edge, and with the fingers the artificial joint was distinctly observable, about equidistant from the edge of the acetabulum and the great trochanter. An incision was made down to the artificial joint, and a large semicircular needle, armed with a tape and the cuneiform seton, was introduced from before, backwards, through it and the glutæi muscles till it passed out

a little behind the great trochanter. The operation succeeded perfectly, and the patient complained of but little pain; unfortunately, however, a putrid pus flowed from the wound, which, as it afterwards appeared, came from the carious acetabulum, and produced so active a hectic, that the patient sunk, after suffering six weeks. Upon inspection of the body, it appeared that the seton had passed directly through the artificial articulation, and that there existed a caries of the acetabulum, and a collection of matter in the pelvis.

V. A young man of 19 years of age, was afflicted with a spina ventosa of the middle of the left femur with several fistulæ running backwards from the tumour, which measured about three inches in diameter. Amputation had been resolved upon as the only alternative; but the patient being a waggoner, had determined to submit to any course at all likely to preserve his limb. Dr. W. proposed to him, to unite the fistulæ, bore through the tumour, and pass into it the cuneiform seton: to this he very willingly assented, and the operation was performed in the same manner as those already described. After the expiration of three days, when the inflammation had subsided, the seton, previously anointed with a balsamic ointment, was introduced every morning and evening, and was so managed that it effectually closed the wound against the external air, and in the course of three weeks produced a good suppuration. The inflammation at first enlarged the tumour and produced considerable pain, but experience had taught Dr. W. that those were symptoms inseparable from the action of the seton, and that they were instrumental in exciting new life in the bone, which would resume, after the withdrawal of the seton, its healthy state. At the close of the thirteenth week the seton was removed, the apertures healed, and the bone speedily reduced to one third of its former size.

2. *An efficacious means of promoting the growth of hair.*

A man between 20 and 30 years of age, of strong and healthy constitution, having a short, curly and coarse hair, of a dark brown colour, found himself becoming bald. Numerous and large bald spots appeared on the head and gradually increased till it became perfectly naked, and as the eye-lashes fell out, the man had quite a singular and disagreeable appearance. When the head was closely examined, a short white and sperse down, very similar to a slight degree of mouldiness, was perceptible. At first it was hoped that the hair would grow again, but the sequel proved the contrary, for the individual remained in the same situation two years, when Dr. Rademacher advised him to pour French brandy upon the sulphat of copper, and after it had remained a few days, to wash the bald parts with the solution once a day. In eight days, the patient observed the hair had already begun to grow, and in four months it equalled in quantity the original growth, but it was crisp, dry and stiff, and had not a natural appearance. On the back of the head a spot still remained bald, and the colour of the new hair was of a lighter cast than that of the former. The eye-brows and lashes grew again like the rest of the hair. A year after this the man shed his hair again, but the eye-brows and lashes remained. Dr. R. wished him now to await awhile, in order to ascertain whether it would or would not grow again spontaneously; but to this proposition the patient would not consent, and had recourse to the solution, which produced another growth of blond or light coloured hair; and the spot which before had continued bald, notwithstanding the solution, became covered in common with the other parts of the head. This growth had a much more natural appearance than the preceding one.

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3. Meliceris Tumour.—A tumour of the size of a man's fist, situated on the left cheek, was removed and followed by a perfect and speedy cicatrisation. The contents of the tumour were so fœtid that the surgeon and his assistants were partly nauseated. Fourteen days after the operation, the patient was

attacked with an intermittent fever, which resisted for six weeks the most efficacious remedies, and only yielded when an ulcer spontaneously formed upon the left leg, which secreted a matter perfectly similar in smell to that contained in the extirpated tumour.

4. New Method of treating Hydrophobia, by Dr. Urban.—Many observations had proved to Dr. U 's satisfaction that the hydrophobic poison, after being introduced into and under the skin, may remain inactive for weeks, months, and even years without passing into the circulation, and without losing, on that account, the power of producing the disease, at some future period, in all its horrors. He has further invariably noticed, that in all cases, the general symptoms of the disease are preceded by a sensation of itching and pain in or about the cicatrix of the original wound or bite, which inflames, and is accompanied by severe lancinating pains, that proceed upwards and attack the lymphatic glands above the injured part. Fever, restlessness, and finally the whole series of symptoms peculiar to rabies canina, invade the system and arise from the introduction of the poison into it for the first time. Dr. U. compares the poison of rabies canina to the seeds of plants; for, says he, both of them require for their growth, that external circumstances should be favourable; thus seeds, frequently, will not spring up at all, unless the soil, climate, moisture, &c. be proper for their growth, and even under the most favourable circumstances many die altogether. In the same manner, many, probably a majority of individuals bit by rabid animals never suffer from hydrophobia, because, in them, the morbid germ that has been deposited does not meet the favourable conditions for its developement, and among those who are ultimately attacked, the time of invasion differs much in different individuals, according as their systems are more or less disposed to call the poison into activity, precisely as some soils combined with other causes promote vegetation more than others. In every case that came under Dr. U.'s observation, the local symptoms were always the forerunners of the general ones, and he believes that this fact has not been generally acknowledged by medical men, because it is sometimes so slight as to escape observation, and the horrid symptoms of the disease are well calculated to absorb the whole attention. Besides the itching, &c. already mentioned, Dr. U. states that there are always about the original injury, before the appearance of the general symptoms, small vesicles varying from the size of a mustard seed to a small pea, and containing a reddish or bluish fluid, which possesses the contagious properties of the saliva. Dr. U. himself was in great danger from an inoculation by this fluid. To continue the comparison between this poison and the seeds of plants, Dr. U. thinks these vesicles may be likened to the cotyledons of seeds just as they are about to germinate, the lancinating pains shooting upwards, to the stem of the young plant, and the other symptoms of the disease to the branching and blossoming of the same.

The method of cure is as follows. 1st. Wash the injured part well with luke-warm milk, and press out all the moisture, sour milk, if it can be easily procured, is to be preferred, because the saliva of hydrophobic cattle turns vegetable blues green. 2d. The wounded part is to be laid in luke-warm salt and water, or cloths moistened with it, are to be spread over it, to promote its bleeding freely, and to soften the skin for the more commodious application of cupping glasses; but these may be applied, if practicable, as soon as the part is washed, to extract as much from it as speedily as possible. 3d. After the wound has been perfectly cleansed by the foregoing means, it is to be scarified by the scarificator or lancet two days successively, and cupping-glasses are to be applied after each operation, with a view of drawing as much as possible from it. 4th. A thick linen compress moistened with a saline infusion is to be bound over each and every wound, however slight, even to the dent of a tooth. Muriate of soda, two or three drachms to a

pound of milk or water, to which an infusion of hemlock may be added, more for the purpose of inspiring the patient with confidence than for any efficacy it may possess, is the principal article in the treatment. Dr. U. was led to the use of the muriate of soda, by observing rabid cattle instinctively liking salt wherever they could get access to it. 5th. The wounds are never to be allowed to become dry, but new dressings must be put on them three or four times a day, and constantly kept moist with the solution. When this course is rigidly adhered to during two or three weeks, except when the wounds are very extensive, it will be sufficient to insure a cure, and then the solution may be discontinued and the wounds be permitted to heal: but the patient must not be discharged without being previously informed of a possibility of a return of the disease, and of the absolute necessity of watching the parts for months and years after, so that in case of the local symptoms already described appearing, he may apply for a renewal of the same treatment. It has already been stated, that the small vesicles, which appear on or about the part originally injured, before the general disease comes on, contain the morbid poison, and it is from this source that absorption takes place and effects the whole economy; therefore, according to Dr. U.'s theory, if no local symptoms appear, and no vesicles are formed, a person cannot suffer from the disease, although he may have been bitten by a mad dog. The vesicles being the source of great danger, they are always to be opened, scarified, cupped, and treated with the solution precisely as laid down for a fresh bite. Dr. U. has never seen any of the vesicles under the tongue, as described by Marochetti: this he thinks is owing to his mode of treatment, which prevents the introduction of the poison into the circulation. He has succeeded, by his plan, in curing forty cases of hydrophobia.

The following cases will seem to illustrate more particularly his mode of treating his patients, and will, moreover, enable each one to judge for himself, whether they were or not genuine cases of hydrophobic inoculation.

(To be continued.)

ART. VIII.—*The London Medical and Physical Journal, for March*, 1827.

1. CONTAGIOUS ERYSIPELAS.—Some cases of this disease are brought forward by Mr. Arnott to prove its occasionally contagious character. Mrs. M. died of mortification of the throat, from erysipelatous inflammation. Mr. M. her husband, three days after her death, was also attacked with soreness in the throat, which was followed by erysipelas of the face; he recovered, and finally his daughter who attended on him during his illness, was affected with soreness of the throat, and the disease also extended itself to the face and scalp. Dr. Dickson, of the Plymouth Naval Hospital, relates the following:

A gentleman after exposure to great fatigue, wet and cold in extinguishing a fire which broke out on his premises, had an attack of erysipelas of the face with considerable fever and delirium. As it began to decline, his wife, who had been his nurse, and occasionally laid on his bed, was attacked with the same disease, with a great degree of fever and very violent delirium. Another instance. The gardener of a gentleman, occupying a small house in the garden, was seized with erysipelas of the face, all intercourse was cut off with the rest of the family, with the exception of the butler who carried him whatever he wanted. As soon as the gardener began to recover, the butler was attacked. Some other cases are referred to, which are

to be found in the writings of Wells, Pitcairn, Whitfield, Baillie and others, tending to establish the fact that this disorder is at times contagious.

2. Distortions of the Spine.—Mr. Shaw, of the Middlesex Hospital, presents some observations on the different modes of treating these affections. He takes a review of the several theories which prevail, relative to the causes of the *lateral* or *serpentine twist* of the spine. This form of distortion is so much more prevalent among the *rich* than the *poor*, that our author ventures to assert "that for fifty young ladies who become twisted between the ages of eight and fourteen, there is not more than one poor girl similarly affected. The poor suffer more however from the almost incurable deformity arising from rickets or scrophulous disease of the vertebra." The symptoms of the serpentine twist of the spine are mostly observed in the following order.

"1st. The frequent attempts of the child, when nine or ten years old, to prevent the dress falling off one shoulder.

"2d. One shoulder appearing higher or larger than the other.

"3d. One of the collar-bones, or one side of the breast-bones, or the breast itself, appearing fuller than the other.

"4th. A thickness of one side and a sinking in of the other.

"5th. One hip appearing to project, or as the mother expresses herself, 'growing out.'

"6th. One leg appearing shorter, and the habit of standing on one leg, with a hand behind the back catching the opposite elbow.

"7th. A peculiarity in the manner of walking; one foot being swung round, and one shoulder thrown forward."

When the girl reaches the age of twelve or thirteen, her figure is so evidently twisted, that the mother consults a surgeon.

Causes. A strong healthy girl is sent to school, where during great part of her time, she is cooped up in a long narrow and perhaps cold apartment. Sleeps in the same room with several others; is not so well fed as at home, and her only exercise is a formal and weary walk. Children of strong constitution, under such restraints, are as liable to become deformed as those originally weak; and from their appearing weakly and dejected before the curvature is discovered, a lurking disease of the vertebræ is often supposed to be the cause of the apparent ill health, and also of the yielding of the column. The most popular theory, however, is, that the twist is occasioned by sitting awry, standing on one leg, stooping and sitting carelessly while writing, drawing, or playing. These may assist and certainly do increase the deformity when once established, but our author suspects that an anxiety to prevent girls sitting negligently, is one of the most fertile sources of this distortion. For instance, the frequent injunction to a girl of ten or twelve to "hold herself up."

When we endeavour to set stiff, as the little girl is ordered to do, we feel weariness and pain in the loins, which we remove by stooping or inclining back, which she not being allowed to do, permits, unobserved, the lower part of the spine to sink to one side, which affords relief.

Several distinct modes of treating this species of distortion prevail in England.

One patient is confined for months to the same position; another performs certain violent exercises for years; a third is rubbed and shampooed; a fourth wears artificial supports, such as stays, collars, &c.; a fifth submits to attempts to replace bones alleged to be dislocated; a sixth is treated by leeches and blisters, or by caustic and moxa; and many are advised to trust merely to improving the general health. These different modes are examined in detail, and our author concludes that all of them may be applicable, but to different stages of the disease.

Thus as the serpentine twist arises generally from weakness of the muscles of the back, it is best remedied in the commencement by suitable exer-

cises and attention to the general health. In the second stage, the muscles, ligaments and intervertebral substance acquire a certain form, exercises are here not so beneficial, but the figure may be improved by artificial supports. In the third stage the vertebræ themselves are altered in shape, then the remedies for the second may still be useful; but to enable the bones to *grow again into natural form* the spine must be stretched during the greater part of the day and night. When the ribs and sternum are much displaced and mis-shapen, the fourth degree has occurred. All the foregoing means must be rigidly enforced, but various contrivances for compressing and re-modelling the ribs must also be adopted. The fifth and last stage is anchylosis. However, any and all plans of treatment combined can only be palliatives or preventives of further increase.

3. A NEW APPARATUS for suspending the limbs in the treatment of fractures of the lower extremities is presented by Mr. Chandler, Surgeon of the Kent and Canterbury Hospital. It consists "of a frame made of beach three feet six inches in length, with four brass pulleys in each side; at the extremity, pin-holes are bored for the insertion of iron or brass pins to secure the frame to the bed-top within eight inches of the frame, two rails of twenty-three inches are placed to connect it. Two side frames are screwed into the upper frame of twenty-one inches in length, and brought to an angle at the bottom, through which is passed an iron rod, having two wooden pulleys or rollers into which four green lines are inserted with hooks at the extremity, by which the fracture box is to be attached and suspended. At one end of the iron rod is a handle of wood with a turning notch, and iron stop in the side frame; by means of this rod, the fracture box may be raised or lowered at pleasure."

4. WOUNDED ARTERIES.—Some interesting cases of wounded and diseased arteries treated at St. Thomas's, are narrated by Mr. Travers.

CASE I. *Of Tumour supposed to be aneurism spontaneously cured*—Hallett, æt. 30, a tailor of healthy appearance. The next day after a very long walk, he perceived a swelling in the right ham which gradually increased in size, and first had a distinct and even strong pulsation. The tumour is defined and nearly fills the popliteal space; has the character of aneurism though the pulsation is obscure; stiffness and pain in the part and cannot extend the leg; joint in no degree affected; no swelling in any other part of the body. Confinement in a horizontal posture produced a diminution of the tumour which became firmer; not the slightest pulsation was now perceptible, and the limb can be extended. A soap plaster was applied to the ham, and a roller applied from the instep to the hip. "Within a month the man left the hospital free from lameness and with scarce a vestige of the tumour."

CASE II. *Blood tumour from an ulcerated opening of the femoral artery which terminated fatally.*

A stout man was admitted with a diffused deep-seated swelling of the thigh of great size and tension, without pulsation or any original character of aneurism; has increased rapidly of late. Shortly after his admission, he died suddenly in the night. Dissection showed that an opening in the femoral artery had allowed the escape of blood by repeated issues, to such a degree, as to occasion ultimately the fatal syncope. Lamellated coagula formed the walls of the tumour, but there was no vestige of a sac.

The last case is of a similar nature occurring in the popliteal artery; the blood tumour was diffused over the greater part of the thigh. Amputation was performed immediately below the trochanter minor. On dissection, in the centre of the popliteal space, there was an opening half an inch long of an oval shape, the edges being rounded off by ulceration. No sac was found.

5. TUMOUR IN THE SPERMATIC CHORD, by Mr. Jeffreys.—This tumour was first perceived in connection with symptoms so strongly resembling those of incarcerated Bubonocele, as to lead to an operation by which the true nature

of the disease was discovered. Upon cutting through the sheath of the chord, &c. there turned out a loose elastic substance, about the size of a pigeon's egg, and which appeared to consist entirely of cellular membrane. Under the upper part of this mass coming out from the ring, a firm white tumour of the size of a large Spanish olive was exposed, which was imbedded in and closely attached to the substance of the chord. It had no resemblance to a recent hernial sac or encysted hydrocele, but was tough and thick, when cut into about one and a half drachms of clear water escaped, and it was found to be a cyst, having the parietes nearly as thick as a half-crown piece. The internal surface was smooth and formed into little pouches. Suppuration was established in it by means of a tent, and the patient recovered. The accompanying symptoms were inflammation of the bowels arising from costiveness, which however had no connection with the tumour, the latter having probably existed unperceived for some time previous, and perhaps would have continued so, had not the former disease occurred.

6. Chorea.—A fatal case of this disease treated by Dr. Hawkins, at the Middlesex Hospital, presented the following appearances on dissection. No morbid appearances within the cranium. The duplicature of the pleuræ adhered firmly together. In the upper part of the lungs were a few tubercles of a large size, and earthy concretions were deposited in various parts. Adhesion had taken place between the external membrane of the liver and the adjacent peritoneum; intestines healthy; the omentum and mesentery studded with numerous cysts: some containing a black semi-fluid matter, others calcareous depositions. Several large concretions of the same nature were found in the pancreas. Uterus somewhat large and vascular and its mucus lining highly injected and a little gelatinous matter found in its neck. The ovaries and fallopian tubes contained a good deal of the black matter above described.

7. Concussion of the Brain.—A case of this kind accompanied by compression, or some local injury of that organ causing hemiplegia, was successfully treated at the Middlesex Hospital, by Mr. Shaw, in which the most decided benefit was derived from the use of mercury.

8. Vomiting.—Some observations on the inefficacy of this process in cases of poisoning from arsenic, illustrated by a case, are offered by Mr. J. Scott. In this case vomiting was kept up *during several hours*, and assisted by copious dilution and the mechanical action of Read's Stomach Syringe, notwithstanding which, the arsenical powder was so entangled and blended with the softened mucous membrane, that on dissection, there were found near the small extremity of the stomach, two masses of this substance enveloped in a sort of reddish jelly, which was doubtless the disorganized mucous membrane serving the purpose of retaining the arsenic.

The amount of arsenic when scraped off and repeatedly washed in cold water, was supposed to be at least half an ounce.

Art. IX. *The London Medical and Physical Journal, for April*, 1827.

1. Disease of the Nails.—Sir Astley Cooper communicates what he has long been in the habit of teaching, respecting the diseases of the Nails and the structure by which they are produced. Of the Nail. It is divided into three parts on its internal surface. 1st. A hollow and nearly smooth white surface, at its roots. 2d. A hollow white laminated surface in its middle. 3d. A hollow, brownish and less distinct laminated portion, near its extremity.

Of the ungual surface beneath the Nail. This is divided into two parts. A highly vascular and villous surface, which Sir A. terms the ungual gland; it is opposite to the hollow at the root of the nail, and the portion over this gland is thinner than the rest. Beyond this secreting surface appear a number of laminæ like the under part of a mushroom, parallel with those placed in the inner part of the nail, and which pass in the direction of the axis of the finger. The part of the nail we usually cut projects beyond these laminæ. The *ungual gland* is very vascular, and its function is to secrete the nail; which grows from its root to the extremity of the finger in about three months.

The cuticle and cutis turn inwards opposite to the root of the nail. The cuticle unites to the nail, and the cutis passes under it to produce the secreting surface and laminæ.

The nail sometimes grows broader than it ought, and then produces ulceration by the pressure of its edge, which is followed by an irritable and fungous granulation. This state may continue for months and even years, though it may be easily remedied by pursuing the plan recommended by Sir A. which is to cut away the edge of the nail with scissors from its extremity to its root, by which a cure is often produced in a few days. A poultice afterwards is the only requisite treatment.

The *ungual gland* may be so affected in diseased states of the constitution, as to throw out a black, everted, unadherent nail, which so irritates the vascular surfaces as to produce an irritable, sloughing, and painful sore. The plan of treatment recommended, is to give a grain of Calomel and a grain of Opium, night and morning, with Decoctum Sarsaparillæ Compositum; and apply Liquor Calcis ℥iv. with Calomel ʒj. by means of lint. If the sore does not heal, apply a blister to bring off the nail and alter the action of the ulcer, or dissect off the secreting surface which produces the nail.

2. Catarrho-Rheumatic Ophthalmia.—Dr. Wm. Mackenzie relates some cases of this affection, in which, in addition to the ordinary treatment for ophthalmia, he found that touching the mouth with mercury expedited the cure.

3. Syphilis.—Mr. Hawkins enters upon the consideration of syphilitic pains and diseases of the bones, which we do not find of sufficient interest to present in detail.

4. Traumatic Tetanus.—A case of this kind occurred to Mr Earle, at St. Bartholomew's, in which large quantities of Hydrocyanic Acid were taken in connection with the other more usual means, but without success. The acid was first given in doses of five drops and gradually increased to *twenty*, with but a partial abatement of the symptoms.

5. Lunar Caustic.—Some directions for using this caustic in the treatment of wounds, ulcers, &c. are given by Mr. Higginbottom, whose peculiar method has before been adverted to in a previous number of the Recorder. First, he always prefers the caustic in the solid form, owing to its being more manageable than in any other. The surface to which it is applied should be moistened slightly with water, except in the case of ulcers; here the surrounding skin alone requires it. Secondly. If the caustic be passed once slightly over the moistened skin of any part with the exception of the hand, it induces simply an eschar. If twice or thrice some vesication is superadded. If more frequently, vesication alone; and there will be soreness in proportion to its degree.

1. *Of Recent bruised wounds of the Skin, &c.*—In this case, the caustic should be applied upon the wound leaving no spot untouched, and on the surrounding skin to the distance of one-third of an inch, so as to produce the simple eschar. The part should be now rendered dry, and the sound skin moistened and covered with goldbeater's skin so as to protect it, and the part to be exposed to the air and kept cool.

2. *Of small ulcers*—.Moisten the surrounding skin and apply the caus-

tic lightly, so as to produce the simple eschar to the extent of half an inch around the ulcer. Then apply it over the ulcerated surface more freely than in the case of an ulcerated wound.

The whole to be protected with goldbeater's skin, as before described.

On the day following the goldbeater's skin is to be removed by moistening it with water. A small smooth incision is to be made by means of a penknife through the central part of the eschar and gentle pressure made to evacuate any effused fluid. The breach in the eschar is to be repaired by means of the caustic, and the goldbeater's skin reapplied. This must be repeated until the eschar becomes adherent throughout, which is ascertained by the appearance of indentations on its surface, and usually occurs about the tenth day.

During the unadherent state, a purgative should be given every second or third day.

With some modifications, he treats punctured wounds, bites, external inflammation, erysipelas either constitutional or from wounds, ulcers, &c. inflammation of the absorbents, and phagedenic ulcers; in some of which, we ourselves have used it with singular benefit and can confidently recommend it to the notice of the profession.

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The Cases of wounded arteries treated by Mr. Travers at St. Thomas's Hospital, present nothing of a highly interesting nature.

6. Injuries of the Head.—A Case of contusion of the skull, with inflammation and abscess of the brain, is related as having been treated by Mr. Shaw, at the Middlesex Hospital, and also at the same institution, treated by Mr. Joberns, a case of compound fracture of the skull, with rupture of the dura mater, followed by fungus cerebri from which the patient recovered.

7. Poisonous Matter in Offal.—Some cases illustrating the history of a peculiar local disease, apparently produced by the application of a poisonous matter contained in offal, are related by B. C. Brodie. It is of the same nature as that which occurred during dissection, and therefore need not be related in detail. We have been informed by an intelligent gentleman of our acquaintance, that button-mole makers are afflicted in this way, when the circular saws, employed as implements of their trade, wound them while engaged in sawing bone, which is previously soaked in water to make it cut with greater facility; here the animal poison appears to be generated by the action of the water on the bone.

ANALECTA.

1. KINO IN DROPSY.—There is a curious case recorded in the Feb. No. of the Medical and Physical Journal, by Dr. Paul, of Elgin, which is worthy of notice. The patient was a colonel in the Royal African corps, who had returned from the coast of Guinea, in October, 1825, in a desperate state of health. He had irritative fever, great prostration of strength, effusion in the abdomen, anasarca of the ankles and feet, tenderness in the region of the liver, great irregularity of bowels, emaciation. The abdominal effusion increased, in despite of every species of diuretic, including mercury, and on the twenty-sixth December, it was necessary to draw off eighteen pints of fluid. Diuretics were again tried, but the abdomen filled, and, by the twenty-fourth January, the operation again became indispensable. He was now so weak, that they thought the colonel would have died among their hands. Sixteen pints were drawn off. The fluid in the abdomen collected again as rapidly as ever. As diuretics had completely failed, and the stomach nauseated them, Dr. Paul determined on a novel, and, as it proved, a fortunate remedy. Dr. P. prescribed half an ounce of tincture of kino in port wine daily. It was commenced on the fourth February, and continued a few days, when the dose was increased till he took an ounce daily of the tincture, with full a pint of port. This plan was continued till the first of April, after which an ounce served for three days. When he began this plan, the abdomen was nearly as full as before tapping. In eight days his appetite began to improve, the strength increased, the pulse fell in frequency. The abdominal swelling remained stationary for a time, and then decreased, till he was able to walk about, and even to undertake a journey to London. Since that period, he has improved wonderfully in health, and, although there is still some abdominal effusion, it is not unreasonable to expect that it will be altogether removed. Every eight or ten days, he takes three grains of calomel at night, and some tincture of rhubarb in the morning. The history is communicated in a letter to Sir James M'Grigor, (who saw the patient,) and is, therefore, authentic.

This case proves that all dropsies are not dependent on inflammation, which is the ultra-doctrine of the day. There are dropsies of debility; else, why should we generally find œdema of the ankles so common in all weak states of the body. We think it is probable that any good tonic, as the quinine, with generous wine, would have produced the same beneficial change, in the above case, as the kino. The event is well worthy of record, as a check to the doctrine which almost exclusively attributes serous exhalation to inflammatory action of the vessels carrying red blood. *Med. Chir. Rev.*

2. ALUM IN DIPHTHERITIS—Our readers will remember that, in our number for October, 1826, page 419, *et seq.* we gave an extended analysis of Dr. Bretonneau's work on Croup, Angina Maligna, Angina Gangrenosa, &c. in which were shown the inefficacy of depletion, and the good effects of certain local applications to the tonsils and fauces, before the peculiar or croupal exudation had spread down the larynx.

The same author has published a paper in the January number of the Archives Generales, containing some further notices of the disease, and of the use of alum as a remedy. This substance has been recommended since the time of Aretæus, in the various forms of inflammation and ulceration of the throat. At the close of M. Bretonneau's large work, he adverted to two cases of angina maligna, where alum was used, and apparently with good effects Since that period he has had more frequent recourse to the remedy, and with success. We shall glance at some of the facts brought forward in support of the topical application of alum in this disease.

In the beginning of July, 1826, a malignant angina broke out at Villandry, four leagues from Tours. A man had already fallen a victim to the disease, on the fourth day; and his wife becoming affected, M. Bretonneau was summoned to her assistance. This female was twenty-one years of age, of florid complexion, and had just weaned her child. When she first complained of her throat, an emetic had been administered. In the night, deglutition became painful, and next morning, one of the tonsils was covered with lichenoid concretions, and was much tumefied, as were the lymphatic glands on that side. By noon the peculiar concretion was much extended—the pulse was small and quick—the countenance depressed—the breath very fetid. Our author had no muriatic acid at hand, and therefore he mixed up some finely powdered alum, with just as much fluid as was sufficient to form a kind of paste, which he applied to the tonsils and parts affected, by means of the handle of a spoon. In the evening the fetor of the breath was much diminished. Another application of the alum was made; and by the next morning the tonsils were beginning to clean—the glands to subside. Three more applications of the alum completed the cure.

In the same village he saw a child of three years of age, who showed symptoms of incipient disease of the throat. Dr. B warned the health-officer of the impending danger, but the latter laughed at him, and said he cured all these throat-affections easily by acid gargles. Forty-eight hours afterwards the breath became fetid—croupal symptoms came on, and the child died suffocated on the following day. Another child soon experienced the same fate, there being only time for one application of alum before death. A third was taken more early, and by the assiduous application of the alum, life was saved.

On the fifteenth of July, Dr. B. saw the brother of the child first mentioned, aged four years. His pharynx was covered with concretions, which extended beyond the view—the cough was croupy—and he had, in Dr. B.'s presence, an attack of croupal suffocation, leaving no doubt in our author's mind that the diphtheric inflammation had extended deeply into the air-tubes. An emetic had been given, and blisters had been applied to the nucha and legs. The mercurial treatment was proposed, as the only resource, but not assented to by the parents. The little patient sunk next day.

At this period the infant that had been weaned, when the mother became ill, was taken with the angina maligna; and the aluminous application was not put to the trial till the third day of the disease. It was then used, and some calomel given. This child was saved, though with much difficulty. Several other cases are related—some successful, but others not so. As far, however, as the limited number of instances, in which the remedy was employed, can afford evidence, the alum appears to be a valuable local application in this dangerous disease.—*Ibid.*

3. Broussais on tetanus.—The professor of the Val de Grace has recently published a memoir on tetanus, by M. Lassere, a physician of Dordogne, in which the author of the new physiological doctrine strongly advocates the practice of local depletion in tetanus, as the only measure that promises any thing like general success in this formidable malady.

Dr. Lassere has met with five cases of tetanus within these few years—the first four of which were saved by general, and more especially local depletion along the spine, the epigastrium, and the muscles which were the seat of spasm. One of these cases was traumatic tetanus, too, which is still more dangerous than the idiopathic. Of this case we shall take a short notice.

Margaret Fouillard had her heel wounded by a blunt piece of iron, the injury, however, being so trifling as not to prevent her from attending to her domestic concerns. Two days afterwards, she felt pains shooting up the thigh of that side,—and ultimately the back, which became stiff. On the tenth day after the accident our author was called to the patient, the whole trunk of whose body, and also the lower extremities, were rigid as a board. Trismus was slight; but the spinal column was the seat of excruciating pain. Her bowels had not acted for some days—pulse small and tight—sense of suffocation. On examining the seat of the original injury, Dr. L. found the parts tender on pressure, though without any swelling. He made a deep crucial incision, which occasioned a profuse hemorrhage. Thirty leeches were applied to the lumbar region, and then a large cataplasm. Opium was also given every two or three hours through the night. The next morning the tetanic symptoms were greatly relieved, and the trismus had disappeared. Warm baths, purgatives, and fomentations to the injured heel completed the cure.

The above was the slightest of all the five cases—the others requiring great and repeated local depletions by leeches from the spine and epigastrium. In some of these cases, it was observed that opium not only disturbed the head, but seemed to induce or accelerate inflammation of the entero-gastric mucous membrane.

M. Broussais, in his comments on these cases, ridicules the idea of treating tetanus, as a nervous or spasmodic affection, by opium, anti-spasmodics, mercury, cold and warm baths, &c. It must be treated as we would treat arachnitis or spinitis—"that is, by applying leeches along the vertebral column, and along those muscles to which an excess of nervous influence is directed." He strongly censures the administration of opium in this disease. He avers that this medicine excites disorder in the stomach and head, which disorder re-acts on the spinal irritation or inflammation, and, consequently, increases the disease. On the same account, he abstains from all violent purgatives, considering the obstinate constipation as a consequence of the disease, and to be remedied by the removal of its cause. M. Broussais asserts that, treated on these principles, the disease has ceased to be half so formidable as it formerly was in the Val de Grace, and in other places where the physiological doctrine is taught and pursued.—*Journ. de Med. Phys. Fev.*

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4. Papular and crustaceous psoris. [M. Alibert. Hôpital St. Louis.]—Under the above title, the celebrated Alibert designates two species of non-contagious affection of the skin, the common character of which is to induce a more or less intense pruritus, causing the individuals to scratch the parts incessantly, for the purpose of extinguishing or appeasing the terrible sensation with which they are annoyed.

1. Psoris Papulosa.—This species presents two varieties, the P. formicans and P. pedicularis. The former has been delineated already, under the title of prurigo formicans, by M. Alibert, and is noticed in a former number of this Journal. It is with P. pedicularis we have now to do.

P. Pedicularis.—This has been always confounded with P. formicans, observes M. Alibert, but although it has the same march and termination, it differs, by the production of an insect, which forms its essential character, and which modifies the treatment.

Case 1. Loyer, aged 44 years, of very sanguineous temperament, had been affected with some cutaneous complaint a few years ago; and it was for a

fresh and aggravated attack that he now entered the St. Louis, covered with eruptions and devoured by vermin. There was seen issuing from beneath the epidermis, a prodigious quantity of lice. Several baths were administered; and on coming out of the water, the papulæ were found shrunk, and only brown spots remaining on the skin. When warm, and especially after the baths, he experienced the most insupportable sensations of formication. He assured M Alibert that he felt the vermin bite and tear him far beneath the surface of the skin, particularly between the shoulders, under the armpits, on the arms, and about the knees. The patient exhaled an odour *sui generis*, and peculiarly repugnant to the olfactories of the attendants. It was observed that the bath produced two distinct effects:—sometimes it caused the issue of a prodigious quantity of vermin, that swarmed over his body and among his clothes:—sometimes the vermin disappeared after the bath, with a great increase of the pruritus. This difference was attributed to the difference of temperature of the water.

Case 2. This patient was 65 years of age, and had never experienced any severe malady. About fifteen months ago, there appeared on various parts of his body, a multitude of small elevations, of a red colour, and accompanied by intense itching, and an issue of pedicular vermin. The wretched man was forced to tear his skin; and yet without being able to allay the irritation, which harassed him day and night. The sensations were most distressing when there was perspiration on the surface, which seemed to heighten the sensibility of the skin. The eruption, the irritation, and the pedicular evolution would cease for five or six weeks, and then re-appear, to continue for a month or so. The unbroken papulæ resembled those produced on the skin by intense cold—those which were torn, resembled a small scale, and were encircled with a red areola.

Case 3. Bernard, aged 78, had long had an eruption on his face, before he was seized, four years ago, in the middle of winter, with intense pruritus over the breast, the upper part of the back, the thighs, and scrotum. Tepid baths, blood-letting, and cooling diluents soon dispersed these symptoms; but they were renewed, with aggravation, the two following winters. In 1824, almost the whole surface of the body, except the hands and face, was covered with eruptions, and became the seat of intense itching. The papulæ, at first red, were soon excoriated, and covered with greyish crusts. When these were detached, small lice were seen to issue from the larger papulæ, and these vermin soon multiplied prodigiously. The miserable patient had scarcely an interval of repose. Each part of the body became alternately the seat of irresistible irritation, and violent stinging sensations. Towards night, especially, the unhappy Bernard was in a state of anguish insupportable, tore his flesh with his nails—and rubbed himself violently with a hard brush!

Although this poor old creature had scarcely two hours sleep each night, yet his health did not seem deteriorated, nor his appetite impaired. His digestion was good; and he had only an obstinate constipation of bowels, the usual attendant on pruritus. Venesection, leeches, opiates, warm baths, diluent drinks, and great attention to cleanliness were employed; but it required six months assiduous treatment, on this plan, to effect a complete cure. The simple warm bath produced more benefit than all the other means together. It is worthy of remark that, in proportion as the cutaneous malady gave way, the bowels became more free, and in the end, the patient had eight or ten motions daily without taking any aperient. During the last three years, Bernard has enjoyed good health, and has had only some slight itching of the skin when he takes coffee, spirituous liquors, undiluted wine, or neglects, for any length of time, the warm bath.—*Johnson's Journal.*

5. *Loss of a portion of the Windpipe, without loss of Voice.*—M. CLOQUET, at a late meeting of the Royal Academy of Medicine, "*presented*" a hair-dresser, who had cut his throat with a razor. The wound was transverse, and had divided the windpipe in such a manner that two of the rings were entirely detached at their anterior part, and were only retained behind by a portion of cellular membrane. They were removed; the lips of the wound brought together by suture and bandage, and cicatrisation took place without any fistula, although there was loss of substance, and the wound admitted the finger even when the head was bent. The voice was lost in the first instance, but afterwards returned, although it remained hoarse. Similar cases are mentioned by LARREY.—*London Med. and Phys. Journal for November.*

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6. *Ascites with Pregnancy.*—We have brought forward several cases in this Journal where the operation of paracentesis was successfully performed during pregnancy. The following is another addition to the list, from the practice of Mr. James Russel, as recorded in the Medical and Physical Journal for May.

Mrs. Kelly, in the sixth month of pregnancy, was visited by Mr. R. who found the abdomen greatly distended—the legs œdematous—and the rest of the body emaciated. There were present also dyspnœa and constipation of the bowels. She was bled, and took calomel and jalap, which measures relieved the urgent symptoms, and Mr. R. was not again called for a week or ten days; when dyspnœa and painful tension of the abdomen were complained of. She was again bled and purged, with relief; but, in ten days more, the dyspnœa and cough were so alarming, that Mr. R. decided on tapping. The patient was now in the seventh month of pregnancy. The trocar was introduced two inches below the umbilicus, and twenty-three quarts of fluid were drawn off. The cough ceased, the respiration became free, and the tumefaction of the labia pudendi and legs soon subsided. She went on improving for more than a month, when labour came on, and she was quickly delivered of a feeble and emaciated child, which only lived ten days. In two months, the dropsical accumulation had again got to some size, and required the operation of paracentesis, which evacuated thirty quarts of water. The dropsy was a third time returning, when Mr. R. lost sight of the patient.

This, and other cases on record, prove the safety, and even the propriety of the operation during pregnancy. *Johnson's Journal.*

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7. *Stenocardia, or Angina Pectoris.*—The following, with some observations, will be found in the Repertoire de Med. of Turin.

Case.—N. de Volpedo, aged about sixty years, of robust constitution and active disposition, had been affected with several attacks of thoracic inflammations, as well as inflammations of the throat. Towards the end of August, 1826, he consulted Dr. Ricotti for an affection of the chest, said to be of five or six months' standing. This came on in paroxysms every day, of longer or shorter continuance, and was considered to be attacks of angina pectoris The accessions commenced with pain in a single point of the left side of the chest, which soon spread over the whole cardiac region, accompanied by a sense of tightness and oppression in the heart, shortness of breath, acute pains in both arms, and numbness in his hands. The least motion of the body or limbs greatly augmented these symptoms, and he was momentarily threatened with suffocation and syncope. There was a great wish, in these paroxysms, for fresh air. These attacks came on several times a-day—and he seldom escaped them for two or three days in succession. They lasted from twenty to thirty minutes, and left the patient suddenly in a state of tremor about the heart, with numbness of the fingers, which went off in a few minutes. In the intervals the patient was perfectly well, all the functions being regularly performed. The paroxysms were easily brought on by any emotion of the mind, whether of a joyous or melancholy nature, or by sudden changes of temperature in the atmosphere. Various physicians were consulted, and all appeared to view the disease as a spasm of the heart, and recommended repose and antispasmodics. Every thing, however, proved useless, and in one of these paroxysms he expired on the eighth September, 1826. *Ibid.*

On dissection, the heart was found flaccid and pale, lying in the cavity of the pericardium like an empty bag. There was a white spot on its anterior surface, near the apex. The lungs were gorged with blood of a blue colour. The liver was greatly enlarged, pressing up the diaphragm, and occupying a large portion of the chest.

M. Ricotti attributes the whole of the phenomena, in this distressing case, to the mechanical impediment offered to the heart's action by the encroaching liver. But this is unworthy of a word of refutation. The flaccid and almost rotten state of the heart itself is the true cause of the phenomena in this direful malady. *Ibid.*

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8. *Perforation of the Bladder.*—Mr. Serph, surgeon, of Welch Pool, has published a curious case, in respect to the final treatment of which, he solicits the advice or suggestions of his brethren. We shall give a brief abstract of this case, referring our readers to the original communication, in our contemporary of the present month.*

Case.—Mrs. A. aged thirty-five, had enjoyed good health till the month of January, 1823, when she was seized with severe pains in the loins, lasting fourteen days. In the following May, the patient was attacked with acute pain in both hip-joints, which confined her to bed for a week, and rendered her lame for a few weeks afterwards. In August of the same year, 1823, she discovered, for the first time, a small, deeply-seated, but loose tumour, in the left labium pudendi, which increased, without pain, and burst, in August, 1824, discharging scrofulous matter. A fistulous opening has remained ever since, from which there constantly oozes some fluid. In March, 1826, Mrs. A. began to feel irritation in the bladder, and, in November of the same year, a calculus was discovered. On the 29th, Mr. S. introduced Weiss's dilator, and, in twenty minutes, dilated the urethra sufficiently to be able to ascertain, with his finger, the position of the stone. A common dressing forceps removed the calculus, which was of the mulberry kind, and the size of a peach-stone. The bladder never for an instant lost its retentive power, but it remained very irritable, and the patient complained of a constant and fixed pain in the lower part of the abdomen on the left side. There now came on a discharge of muco-purulent matter (very fetid) from the bladder, indicating ulceration of that viscus, for which various remedies were employed, without any good effect. The symptoms of irritation increasing, the patient became convinced that she had another stone in the bladder, and this conviction was verified; for, on the 7th of May, 1827, Mr. S. proceeded to a second operation, which was very tedious, in consequence of the friability of the calculus, which crumbled between the fingers, like half-dried mortar. All the particles being washed away, the surgeon and patient now flattered themselves that they had conquered the enemy; but this was not the case, for the pain in the left side of the bladder returned, and early in July, the afflicted patient again asserted that a calculus still remained in the bladder. A third operation was performed on the 14th July, and the bladder was examined, but no stone could be found. Mr. S. was on the point of giving up the search, when, turning the finger towards the posterior surface of the pubis, he detected a rough substance, part of which crumbled under the touch. Mr. S. endeavoured to loosen the remainder, which was so rough and so hard, that he was obliged to desist, on account of the pain it gave him. He then introduced a lever, curved to an angle of 45°, and twice fixed it on the hard substance, and "applied to it a force much more than sufficient to break it in pieces, had it been of a consistency even much harder than urinary calculi generally are; but all in vain." In this attempt "a piece of irregular shape broke off, which was of a dark colour, and extremely hard." The finger was introduced, and the substance "felt of that kind of looseness, which we sometimes feel in shaking between the finger and thumb some of the molares, which, however, require a great power to extract them."

It appears to Mr. S. that, so long ago as 1823, the disease began to develop itself in the os pubis of the left side, and that that bone became carious—secondly, that

* Med. and Phys. Journal, for October, 1827.

an abscess formed, which interested externally the labium of that side, and found its way internally through the coats of the bladder—thirdly, that an osseous excrescence, arising from the pubis, penetrated through that opening, and became a nucleus, on the surface of which, the calcareous part of the urine was partially deposited, in the same way, as stalactites are formed—fourthly, that, when the concretion had acquired a certain size, it detached itself, and became a common urinary calculus, loose in the bladder—fifthly, that had he succeeded in breaking off the bony process, some accident might have arisen from the contact of the urine with the sound part of the bone.

The writer, as we before observed, solicits the opinion and advice of his professional brethren respecting the prognosis and treatment of this remarkable case. At present, the patient is taking iodine, apparently with advantage. *Ibid.*

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9. *Omission of Ligature in Amputation.*—[Dr. Koch, of Munich.]—Notwithstanding the researches and experiments of surgeons and physiologists, respecting the spontaneous cessation of hæmorrhage from divided vessels, much uncertainty and much contradictory opinions still remain. The author of this paper thinks that *timidity* has tended to keep us in ignorance on some points of importance. There are very few who will amputate a limb, and fearlessly trust to nature for the security of the cut vessels. *The author's father, Director of the general Hospital of Munich, has not tied a single artery in the various amputations which he has performed for the last twenty years.* To this wide range of experience, the son has added his own, in corroboration of the opinions of his father and of himself, respecting the imaginary danger of leaving vessels untied in amputations.

Arteries, says he, when cut and not tied, remain entirely open, up to the place where they are divided:—The canal of arteries tied in the usual manner remains open also to the spot where the ligature is applied, and their parietes do not unite at this spot. These observations were repeatedly made by the author's father, on dead bodies, where the arteries had been cut by him, or tied by other surgeons, many years previously. He always found the diameter of the vessels that had *not* been tied, contracted as they approached the place of section, but the parietes never adherent till the artery ended in a kind of cicatrix. These things are seen in numerous preparations by the author, in the anatomical museum of Munich. The vessels that had been tied presented the same appearances, except that, at the spot where the thread had been applied, there was a narrowing, but never an obliteration of the canal of the vessel.

In a disarticulation of the hand, the surgeon had tied the radial artery, and omitted to tie the ulnar, as it did not bleed. The ligature came away on the 8th day, and on the succeeding day the patient died. On examination, the terminations of the two arteries were so similar, that it was difficult to say which of them had been tied by ligature. Both extremities were perfectly pervious—the radial artery appeared to be slightly torn at the termination.

In numerous experiments on dogs, our author could perceive no difference between the arteries that had been tied, and those that were left to nature. Thus, he tied the femoral artery of a dog, and cut the vessel below the ligature, without hæmorrhage. The wound was closed and healed. A month afterwards he killed the animal, and found the upper and lower extremities of the vessel were completely similar, each being united to an external coagulum by an open mouth.

The formation of a coagulum takes place in some, but not in all cases. But it produces the same effects in the vessels which are tied, and in those which are cut, and not tied. In ligatures of arteries, the internal coagulum is often found in connexion with the external, so as to fill exactly the orifice of the vessel. The coagulum is rarely adherent to the internal parietes of the vessel, and never completely so up to the nearest anastomosis. An amputation was performed at the hip-joint, and the crural artery was tied. The ligature came away on the eleventh day, and, on the fourteenth day, the patient died. On dissection, a clot was found plugging the artery, but the canal of the vessel was open. In a very few cases indeed was the bore

of the artery found obliterated after the ligature, by adhesion of the sides of the vessel.

"No doubt," says the author, "that most surgeons will stare when I propose the general abandonment of the ligature, as the means of preventing hæmorrhage, especially in amputations. They will be still more surprised when I assert, that, by this omission of the ligature, the most certain means are taken to obviate effusion of blood. Yet this assertion rests on the basis of experience, and can be testified to by all those who have witnessed my father's operations in a public hospital for twenty years past."

Dr. K. appears to think that the spontaneous cessation of hæmorrhage from a divided vessel depends *chiefly* on some change in the blood itself—partly in retraction of the vessel. The coagulum he considers as the *effect* rather than the *cause* of this cessation of hæmorrhage. This last conclusion appears plausible; for it is hard to conceive that coagulum can form *during* hæmorrhage—and if it form after the cessation of the flow of blood through the orifice of the vessel, it can hardly be viewed in the light of a *cause* of that cessation. All that can be said in this case is, that the coagulum may prevent subsequent hæmorrhage; but this our author denies.

"The application of the ligature," says he, "in disturbing the spontaneous cessation of the hæmorrhage, acts in a manner quite opposed to the end in view. It produces, it is true, a mechanical and temporary obliteration of the bore of the artery, but this is inferior in value to the natural retraction of the vessel, and spontaneous cessation of the hæmorrhage."

This spontaneous cessation is to be aided, or rather promoted, by pressure on the trunk of the vessel leading to the part, and a gentle degree of the same on the face of the stump, either by the hand or by a proper bandage. By these means the stasis of the blood is promoted, and protection from future hæmorrhage secured.

The method pursued by Dr. K. and his father in amputations is as follows:—After dividing the soft parts and bone, the surface is sponged, and the muscles and integuments brought nearly into contact, and retained by adhesive plaster, so as to secure adhesion by the first intention, if possible. *During* the operation, the vessel is compressed by the fingers of an assistant, and *afterwards*, the pressure of the fingers is rendered unnecessary by the application of a compress, laid along the trajet of the main artery, secured by a roller. The patient is then placed in his bed, and the stump kept elevated, and an assistant is directed to make gentle pressure on the face of the stump for an hour or two—or longer, if he feel considerable pulsation in the part. "When this pulsation has ceased, and when the dressings appear tinged red by the exuding lymph, all danger of hæmorrhage is considered as at an end, provided the patient keeps quiet. Presently, the exudation of lymph ceases—and the dressings become quite dry and cold." The patient generally passes the first few days without fever, on which account he is allowed wine, coffee, and other food; which dare not be given under other circumstances. No opiates or medicines of any kind are usually exhibited after the operation. About the fifth day, there is generally some traumatic pyrexia evinced, owing to the suppurative process going forward in the wound; but it requires no particular treatment. A moisture taking place on the dressings about the seventh day, indicates the establishment of suppuration; but if the dressings keep dry, union by the first intention is sure to have occurred. Whether suppuration or adhesion has taken place, the dressings are never removed before the tenth day, or even later, unless violent inflammation or hæmorrhage should arise. They consider that the adhesion of the integuments and muscles is never properly consolidated before the tenth or twelfth day, and, therefore, that much mischief is done by too early a removal of the dressings.—*Journal de Progres.*

We leave these statements supported as they are by occurrences in a public hospital, to the consideration of surgeons and physiologists. They are worthy of consideration. *Ibid.*

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10. *Case of supposed Hydro-Pericardium cured.*—Dr. Bonet has offered the following case to the Professional Public. A man, sixty-six years of age, had been subject,

for many years, to pains in the ankles and other joints, which were supposed to be of a gouty nature, as they generally lasted but a few days at a time. For five years, he complained of being easily put out of breath, on ascending stairs, or walking up an ascent, so that he was often obliged to stop short, or even sit down. The quickness of breathing, at those times, was attended with paroxysms of coughing, without expectoration. He also complained of a dull, deep-seated pain under the sternum, in the region of the heart. At these times, his face, naturally pale, would become flushed, and his lips livid When Dr. B. was consulted, the patient's eyes were yellow, the breathing short, the paroxysms of cough were frequent, with occasional expectoration; there was acute and deep-seated pain in the region of the heart; decubitus lateralis impossible; pulse full, hard, and only forty-five in the minute, with an occasional intermission. By the stethoscope, and the naked ear, a loud noise was distinctly heard in the region of the heart, at each contraction of the ventricles. These phenomena induced Dr. B. to conclude that there was water in the pericardium. There was, at this time, no œdema of the extremities; but the symptoms getting worse, the legs began to swell in a week after this period, and the swelling progressively increased till the limbs were double their natural size. Ascites ensued, and paracentesis was contemplated. The œdema gained the body and upper extremities. The patient's state was now hopeless, and he had frequent attacks of syncope. Leeches had been several times applied to the region of the heart, and diuretics had been given internally These not succeeding, our author determined on drastic purgatives, combined with diuretics. Calomel, jalap, scammony, aloes, and digitalis were combined, so as to produce every second day a purgation of five or six brisk evacuations. This treatment was continued six weeks, with the effect of reducing the dropsical swellings of all parts, the difficulty of breathing, the cough, the irregular action of the heart, the decubitus difficilis, and, in short, all the symptoms of the complaint. The cure has been complete; or, at least, there has been no relapse during the last six months.—*Journ. Complementaire.*

We do not see that there was any very positive evidence of hydro-pericardium in the above case. We think the disease was more of the hepatic than the circulating system, and the success of the treatment justifies this conclusion. Palpitation and irregular action of the heart are often among the first symptoms of dyspepsia and biliary derangement. It is not unlikely, however, that there was some effusion in the chest, at the time when the other dropsical symptoms obtained—and all the dropsical effusions were of an inflammatory character. *Ibid.*

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11. *Remarkable Intermittent Hiccup, attended with extraordinary phenomena.*—[Dr. Hellis. Hotel Dieu de Rouen.]—A youth, at the age of seven years, felt a sense of fatigue rather than of pain, about the last dorsal vertebra, and soon afterwards a similar sensation in the epigastrium, which was succeeded by hiccup, at first neither severe nor of long continuance. During the space of two years, this hiccup was renewed, from time to time, and with longer or shorter intervals; but always preceded by the sensations above-mentioned, arising from the spine, and stretching to the epigastrium, without, at first, deviating from this course, or extending to other points. But, after a time, this *aura*, (to give it a name and to avoid periphrasis) began to take a wider range—darting from the epigastrium to the neck, and ultimately to every part of the body and extremities, except the head, to which it never extended. This radiation always took place immediately before and during the attacks of hiccup. In descending along the arms, this aura sometimes caused a kind of spasmodic contraction of the muscles, and clenching of the fists, during which, the hiccup would cease, for a moment, but re-appear as soon as the hand was opened. On this account, the boy often had recourse, and sometimes with success, to the expedient of clenching the fists, to relieve him from the hiccup. The attacks were, at first, separated by considerable intervals—but afterwards became almost weekly, and never ceased till the *aura* returned to the spine, the spot whence it first emanated, which generally required from one to three hours, unless interrupted by the clenching of the fists, as above described. It is curious that the clenching of the fingers

had no effect on the hiccup, before the aura descended to the hand—and whenever the fingers were relaxed, the hiccup would return. On this account, he would sometimes keep the hand firmly clenched for a fortnight together, tying a handkerchief firmly round the fist on going to sleep, lest the grasp should relax and the hiccup return. In this state he had passed two years, when he was sent to ROUEN for his education. He was there examined carefully by Dr. Hellis, in company with Messrs. Godefroy, Blanche, and Vigné, members of the Royal Academy of Medicine. He appeared to have a good constitution; his neck was short—shoulders square and expanded—appetite and sleep good—no eruptive disease had preceded the present affection—the premonitory sensation is still a sense of tension and fulness in his back. This part was examined with great care, when a circular depressed cicatrix was remarked on one side of the spine, the origin of which could not be ascertained.

For three days previous to this examination, the hiccup had been suspended by the firm flexion of the fingers of the left hand. It was ascertained, by several trials, that the least relaxation of the flexor muscles renewed the epigastric aura and hiccup, which seemed, as it were, imprisoned in the clenched fist of the patient. When the attack was renewed, in this manner, by way of experiment, the effects were sometimes alarming, the boy being threatened with suffocation, spasms, and other distressing phenomena. It was tried whether ligatures placed on the arm, or on the lower extremities, when the aura was there, would have the same effect of localising or imprisoning this electric enemy, but they totally failed, as did moxas, blisters, &c. But what was still worse, the clenching of the hand failed after a time, and a new irradiation began to dart from the spine, in various directions, exciting the hiccup, in the same way as the original aura. At length this second aura reached the fingers of the *right* hand, and these being clenched, the new enemy was imprisoned, the spasms and hiccup instantly ceasing. By way of experiment, the physicians caused the two hands to be simultaneously opened, when two distinct auræ were felt to dart from the hands in various directions over the body, exciting a most tremendous fit of hiccup! The second aura, however, disappeared in a few days, and the old enemy being once more imprisoned in the left hand, the poor boy had a truce while he kept that hand clenched. The boy was incapacitated for his studies, and sent back into the country. This state continued for a year afterwards, when the phenomena gradually ceased, and he returned to ROUEN, much improved in appearance, and able to go through his scholastic exercises with ease. It is not a little curious that now a node, similar to that which we see in old arthritic subjects, occupied the index finger of the right hand, and two similar nodes two of the fingers of the left. These phenomena, we think, prove that the disease could not have been simulated, as one would be apt to suspect, had these physical changes of structure not appeared as a kind of evidence in the boy's favour. *Ibid.*

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12. *Inflammation of the Spinal Marrow* —[M. Ollivier. Hôspital Necker.]

It is of great importance to accumulate facts elucidating inflammation of the spinal brain, since this is supposed by many to play an important, though unsuspected part, in many dangerous diseases.

Case. A young lad, aged sixteen years, was admitted into the NECKER HOSPITAL, on the 3d August, 1826, ill (according to a vague and scarcely intelligible account given by himself) about three days. He seemed abstracted and confused in his ideas, could only answer in monosyllables, and was constantly moving about in his bed. It appeared, however, that he had wandering pains in his limbs, head-ach, and diarrhœa. The countenance was yellow—cheeks red, epigastrium very tender, tongue red at the sides and tip, but moist. Under the idea that the boy laboured under gastric and intestinal inflammation, he was leeched, fomented, and had diluents given for drink. Next day (4th August) the leech-bites were still bleeding, but there was no amendment. The tenderness, which was supposed to be confined to the epigastrium, was now ascertained to exist all over the body, no part of which could be touched with the finger without causing the patient to cry out, on account of pain.

This excess of sensibility over the surface induced the medical attendant to suspect that he had been deceived in his diagnosis, and that the seat of the disease was in the spinal marrow. As the leech-bites were still bleeding, and the boy very weak, M. Honoré contented himself with the exhibition of diluents. The mother of the patient having come to the hospital, they learnt that he had plunged eight or ten times from the bridge of Jena into the Seine, on the 31st of August—that, at the last plunge, he had hurt his left leg, but so slightly that he walked home—and that, during the succeeding night, he had been very restless, and complained much. *5th August.* The patient was delirious, and talked incessantly, but incongruously. Mercurial frictions every six hours. *6th.* All the symptoms aggravated, except the diarrhœa. The frictions could not be properly applied, on account of the universal soreness of the body. *7th.* Extreme agitation—cries out constantly—convulsive and involuntary movements, especially of one of the lower extremities,—cannot lie a moment in one position—face flushed—pulse quick and strong—skin hot. Twelve ounces of blood from the arm—small doses of laudanum—warm bath. *8th.* No alteration. *9th.* Prostration of strength—died in the evening.

Dissection.—The membranes of the brain were sound—the cerebral substance more dense than usual. The envelops of the spinal marrow appeared natural, and the medulla spinalis itself, at its upper part, seemed healthy. Opposite to the 7th cervical vertebra, the spinal marrow was evidently softened, and infiltrated with pus. This species of lesion extended to the 4th or 5th dorsal vertebræ, from whence, to the cauda equina, the organ was unaffected. In the chest, the lungs were sound; but the pericardium adhered to the heart throughout by a soft, cellular, lamellated tissue. There was no other organ or part in a state differing from health.

We think the inflammation of the pericardium, by which that membrane was glued to the heart, played no unimportant part in the symptoms and death of the patient. *Ibid.*

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13. *Remarkable Tendency to Phlegmasiæ.*—[M. Lomel. Military Hospital, Strasburg].—This case is recorded in M. Broussais' "*Annales de la Medicine Physiologique*," a journal which we have only recently procured in exchange, but which will hereafter be more known to our readers. There is a passage in the preliminary discourse to the first number for this year, which we shall extract, as not a little applicable to our own times and country. M. Broussais is speaking of a new French quarterly journal, on a plan nearly similar to our own, and which is to be conducted without any party spirit, but solely for the purpose of collecting the rays of knowledge from all quarters, foreign and domestic—and then diffusing them in a concentrated form, through the various ramifications of medical society.

"Nous ne pouvons qu'applaudir à des vues aussi sages, aussi philanthropiques. Il était temps que les gens de bien se réunissent pour neutraliser les efforts de *ces coteries* où l'on excite *les passions* contre les hommes de la science qui n'en pas partie."

We sincerely hope—indeed we are thoroughly convinced that the tide of dissention and party-spirit which has, of late, unhappily overflowed, in this country, is now rapidly ebbing—an event that must give great satisfaction to all those who wish well to medical science, and desire the respectability of its professors.

Case. A sub-officer of artillery, aged 23 years, of sanguineous temperament, entered the Military Hospital of Strasburg, on the 5th of December, complaining of acute pain, of four days' duration, in the lower part of the left side of the chest, verging round towards the epigastrium. The patient affirmed that he felt this pain first in the spinal column, and that it afterwards extended forward. Deep inspiration caused much inconvenience, as well as coughing, which last, however, rarely occurred. The left ribs were nearly motionless in the act of breathing—percussion there caused pain, but elicited a clear sound. There was but little increase of heat—the appetite was gone—the tongue white in the middle, and rather red at the tip and sides—bad taste in the mouth, which was dry and clammy—thirst—pulse frequent and hard. He slept pretty well, and the bowels were regular. Twenty leeches

were applied to the affected side—he was put on the lowest diet—and diluent drinks were prescribed.

6th. The leeches bled copiously, and the pain was much diminished; but the skin was dry and hot—the pulse quick, but less hard—thirst, confined bowels. *Emollient lavement.* *7th* Same state—same prescription. *8th.* The bowels opened; but the symptoms nearly the same. Fifteen leeches to the anus. *9th.* Passed a good night—pain of side gone—can breathe freely. Pulse is still quick and hard.

10th Acute pain in the right thigh, where a phlegmonous swelling appears. Thirty leeches to the thigh. *11th.* The tumour diminished. Some febrile symptoms still remain *12th* Another inflammatory swelling has appeared in one of the arms. Twenty leeches to this part. *13th* The swelling on the arm is diminished; but a similar phlegmon has appeared on the corresponding knee, to which twenty leeches have been applied *15th.* Inflammation has occurred in the ankle of the same extremity. Ten leeches to this new phlogosis. *18th.* Some pain of the head is complained of, the other local inflammations having much subsided. *20th.* To the headach were added swelling of the left side of the face, and erysipelas. The constitutional disturbance is now considerable. *21st.* The swelling of the face is so great that the patient can scarcely open his eyes. A pustular eruption is appearing over the body, as large as variola. The febrile symptoms aggravated. *22d.* The patient is delirious. Twelve leeches were applied to the temples: but the appearance of the erysipelas and the constitutional symptoms leave little hope of life. He died next day.

Dissection. Under the seat of erysipelas in the face, there was a depôt of purulent matter, and denudation of some of the bones. These was purulent matter, of no good quality, found in all the other seats of inflammation, above alluded to. There were six ounces of purulent matter found in one of the knee-joints, the synovial membrane being much inflamed. The vessels of the pia mater were highly injected, and some portions of the brain were positively inflamed—the cerebral substance being generally firmer than natural The vertebral canal presented a large quantity of bloody fluid infiltrated into the cellular tissue, but the medulla spinalis itself was firmer than natural.

In the chest there was very little variation from a state of health, except some pleural adhesion. In the stomach several zones of vascularity were observed in the mucuous membrane, together with thickening and softening of that tissue. The internal surface of the small intestines was red throughout; some patches of inflammation in the large intestines There was no other disease in the abdomen.—*Annales de la Medicine, &c.*

The above case is certainly remarkable for the powerful tendency to inflammatory action in different tissues, and consequently presenting different trains of phenomena. M. Broussais justly remarks that such inflammatory tendencies can only be successfully treated by early and energetic depletion Had such measures been employed in the above case, it is probable that the inflammatory irritation would not have spread from one tissue to another, with ultimate destruction of life. *Ibid.*

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14. *Ununited Fracture cured by Pressure.** [St. George's Hospital.]—In a note to the article on "carotid aneurism" in our last number, we alluded to this case, but gave no particulars of the treatment These have since been detailed by Mr. Brodie in our esteemed contemporary for July, and it may not be uninteresting, just to glance at the means by which the cure was effected.

J. M'Ewen, æt twenty-four, broke his right arm and left leg, in November, 1825. He was taken to a hospital and treated in the usual way. The fracture of the leg did well, but no union took place in the arm. In August, 1826, he went to Panton Square, where Mr. Wardrop passed a seton, which was withdrawn at the end of a week After a time the patient was discharged, and reported as *cured* in the Lancet. In Nov. 1826, he entered St. George's, the broken ends of the bone appearing to be united by ligament, riding one over the other, and admitting of extensive motion.

* Med. and Phys. Journal.

Mr. Brodie now determined on applying pressure, on the principle suggested by Mr. Amesbury. The fore-arm being semi-bent, a wooden splint adapted to its figure, and reaching from the axilla to the fingers, was applied on the inside. On the outside of the arm, a straight splint was placed, extending from the shoulder to the outer condyle, and both splints were then secured by bandages. Over all there was a tourniquet, the band of which embraced the fracture, whilst the degree of pressure thus made on the broken bone was easily regulated by the screw, which was on the outside of the arm. The splint on the inside being broader than the limb, and only slightly concave, the principal vessels were defended from pressure, and whatever was the force employed, the circulation was but little interrupted. In six weeks, the motion of the fractured bones was much diminished, and at the end of three months none was perceptible. On the 31st May the man left the hospital, the bones being firmly consolidated, and the arm as useful as before the accident.

This case does credit to the ingenuity and perseverance of Mr. Brodie, and we have no doubt that pressure, properly and steadily applied, will prove effectual in many, if not most, of those cases of ununited fracture, which have been not unfrequently an opprobrium to surgeons and surgery.—*ibid.*

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15. *Scirrhus Pancreas—Cataract.*—[M. King. Hotel Dieu.]--*Case.*--Nicholas Dantieu was received into the Hotel Dieu, of Paris, on the 15th December, 1825, being then in his 45th year. He was affected with cataract of both eyes, of some years standing, which rendered him nearly blind. His skin was tinged of a greenish yellow colour all over, as well as his eyes This icterus came on, according to his account, four months previously, from grief at the loss of sight. M. Dupuytren considering the jaundice as the effect of chagrin, and not the consequence of any internal disease, operated for the cataract of the right eye, by couching, and put the patient on low diet. The patient was partially restored to sight, and appeared to be going on pretty well; but about ten or twelve days after the operation he began to complain of great debility, tinnitus aurium, and tendency to syncope, when he attempted the perpendicular posture. By the 3d of January, 1826, these symptoms had considerably increased—he passed involuntary stools of black and bloody appearance, and next day he expired.

Dissection. The emaciation was moderate, the skin still of a greenish yellow colour—brain and membranes sound—stomach contracted and empty, with some very red spots on its mucous membrane. The duodenum was filled with reddish-coloured bilious matters, and its mucous membrane evidently inflamed. The internal surface of the small intestines was of a deep red colour, but the vessels were not injected —consequently the colour was considered as the effect of imbibition. The large intestines contained coagulated blood in a state of decomposition, and their mucous membrane was red as blood. The liver was large, and of a slate colour externally; but its interior texture was green. The gall-bladder, besides gas, contained some inodorous, tasteless, and colourless sero-mucous fluid, bearing no resemblance to bile. The cystic duct was free. The hepatic and choledoch canals were distended to the size of the ileum of an infant, and filled with gas. The mouth of the ductus communis was pervious; but the dilatation of these canals was evidently owing to the obstruction offered to the discharge of bile by the pancreas and other scirrhous glands. The pancreas was very large, and a portion of it scirrhous and amalgamated with a cluster of scirrhous glands situated between the pancreas and aorta, by which the biliary duct was compressed. The pencreatic duct was free. The heart was large and covered with fat. There was no other lesion of any consequence in the body. The fluid found in the gall-bladder was submitted to chemical analysis by M Chevalier, but the results were not very satisfactory. At all events, it had no resemblance in sensible properties or chemical composition to bile—*Repertoire, No.* 3.

The author hazards some speculations on the probability that the cataracts were occasioned by the disorder of the digestive organs resulting from the obstruction offered to the bile in its passage into the intestines. These, of course, are merely hypothetical. The case, however, is interesting, as shewing the dreadful effects of

obstruction to the discharge of bile into the intestines. Not only was the secreting organ changed in structure from the retention of the bile; but the digestive apparatus and the whole system suffered from the want of the biliary fluid, so necessary to gestion.—*ibid.*

16. *Diabetes Mellitus*—[M. Luroth.—Strasburg Hospital.]--Case. J.B. Canyen, a soldier, aged 40 years, entered the Hospital of the Faculty of Medicine, of Strasburg, on the 27th December, 1824, having been affected with diabetes for three years previously. The cause was unknown; but the progress of the disease was rapid, and the patient was reduced to a state of marasmus. He had no pains in the region of the kidneys, nor could any lesion be discovered by external examination of the abdomen. The urine was copious and sweet—the appetite voracious—the thirst inextinguishable—tongue white and moist—pulse, temperature, and alvine excretions natural. The quantity of urine made each day amounted to upwards of 30 pints. Various remedies were used, without any impression being made on the complaint. The plan of Rollo was then tried. By the third day of this treatment, the quantity of urine was diminished to eight pints per diem, and a most abundant perspiration daily covered the surface. The qualities of the urine became nearly natural. But now the appetite failed, vomitings took place, constipation became obstinate, the thirst was still intense, febrile phenomena were developed, debility rapidly increased, and dyspnœa, with cough, were added to the other symptoms. The patient lingered out till the 10th March, 1825, seventy-two days from his entrance into the hospital, and then expired.

Dissection. There was nothing remarkable in the intestinal canal, except a few discoloured patches in the mucous membrane, which, in texture, was sound. There was also a very small ulceration of one of the mucous follicles in the lower portion of ileum, near the valve of the colon. No apparent change in the liver, spleen, pancreas, or kidneys. The vessels of these last were strongly injected. The ureters were dilated, and the urinary bladder was very capacious. Its coats were thickened, and their vessels and nerves strongly developed. In the chest, the morbid phenomena far exceeded the symptoms during life. There was hydrothorax in the left side—hepatization of the left lung, and, in its upper portion, a large cavernous excavation—universal adhesion of the right lung to the side, but its structure sound —hydro-pericardium—aneurismal dilatation of the pulmonary artery, two inches in diameter. There was no lesion in the brain or its membranes. The blood was ev ery where fluid in the vessels, and mixed with air.—Repertoire, No. 3.

On several occasions, in this Journal, we have stated that, of many dissections which we have seen of diabetic patients, not one presented sound lungs. On examining the records of published cases, where dissection was practiced, we could scarcely find a single instance where some disease of the lungs was not evident. These facts have long ago led us to believe that diabetes was dependent on pulmonary disease, and, consequently, on some defect in the sanguifactive process. It may be said, indeed, that all these pulmonary diseases occur daily, without producing diabetes. This objection is more specious than solid. The same may be made to many other pathological conclusions. The same organic disease in the brain will in one individual, produce epilepsy—in another, apoplexy--in a third, paralysis—in a fourth, insanity, and so on. We cannot account for the variety of effects resulting from the same cause; but if we invariably find disease in the lungs on the examination of diabetic bodies, we may reasonably conclude that such are not mere coincidences, but are to be viewed in the light of cause and effect.

17. *Dr. Lee on Nutrition of the Fœtus.*--Some investigations made by the above-mentioned ingenious and talented young physician would lead us to think that the liver secretes a fluid during utero-gestation, which mainly serves the purpose of nutrition in the fœtus. He ascertained that the stomach of the fœtus, from three to nine months old, always contains a transparent mucous and acid fluid, but never the smal-

lest admixture of albuminous or nutricious matter—while on the other hand, the upper half of the small intestines always contains a yellowish pultaceous mass which, in appearance and chemical properties, exactly resembles the chyme of the adult—in a word, pure albumen. The lower half of the small intestines contains very little of this substance. The meconium is confined solely to the large intestines. But the most remarkable fact is, that a fluid resembling that in the duodenum, viz. pure albumen, is found in the hepatic duct of the fœtus—whence it may be fairly inferred that the liver secretes the nutriment of the fœtus, which is taken up from the small intestines. If these facts be corroborated by future investigators, and we venture to predict that they will, we shall have a satisfactory explanation of the large size of the liver in the fœtus, and of the important effects which the bile, in all ages of the individual, produces on the animal economy, and particularly on the growth and support of the body. Dr. Lee was assisted in his chemical investigations by that profound and accomplished chemist, Dr. Prout. Dr. Lee stands a fair chance of being handed down as a discoverer, even in this advanced æra of physiology.

18.—*Chloride of Lime in Phagedæna Gangrenosa.*———This application has been tried in a case of sloughing phagedœna at Bartholomew's, and apparently with good effect. A girl was admitted with a sore on the left labium, which included a great part of the perineum, and was covered with a dark-brown slough. The discharge was highly fetid There was a dusky-looking circle of inflammation around—the cellular texture was puffy, and there was excessive pain. The concentrated acid was applied, and a grain of opium administered. Next day there was less general disturbance; the sore had deepened at its lower part, but the discharge was less fetid. The acid was applied a second and third time but with little good effect. The chloride of lime was now tried, and by the next day there was less irritability, and the ulcer had lost its sloughy character. Mr. Vincent not liking, it seems, to "let well alone," now applied an opium lotion, with salines internally, which had a decidedly bad effect upon the sore. The chloride of lime was resumed, and from that time the girl has been doing well.

19. *Prurigo cured by Colchicum.*—A man, æt. 70, and upwards, was admitted with the disease in its inveterate form. Dr. Elliotson gave half a drachm of the wine of colchicum ter die. This the patient took for three weeks, at the end of which time he was dismissed cured.

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20. *Marshmallow* yields a peculiar substance, which is obtained by the following process:—prepare a cold watery extract of the root; treat it with boiling alcohol, which dissolves acidulous malate of althein, &c.; mix all the spirituous decoctions, which become turbid as they cool; pour off the clear solution; treat the crystalline deposit with water; filter; evaporate to the consistence of a syrup; and then set it aside to chrystallise. Wash the crystals in a small quantity of water, and dry them on paper. Those crystals, when microscopically viewed, are of the hexhahedral form,—are of a beautiful emerald colour, soluble in water, but insoluble in alcohol. The aqueous solution of these crystals, treated in the cold with magnesia, and filtered, restores the colour of litmus which has been reddened by an acid, and renders syrup of violets green. By evaporation, the althein is obtained separate from the malic acid.—(*Journ. de Chim. Med.*)

MEDICAL INTELLIGENCE.

1 *A letter from T. P. Hereford, M. D. to the Editors.*

There is, perhaps, hardly any subject connected with medicine, of a more important and interesting character, than this disease presents to the contemplation of the humane and enlightened physician. It is a malady or functional derangement which gives rise to a large proportion of all the disorders to which the constitution of woman is heir How few of her complaints that cannot be traced to some irregularity in the grand and all important function of Menstruation—that have broken down her energies of body and of mind, that are not referable to this source?

Viewing the subject in this light, I have thought it the paramount duty of every physician to contribute whatever he could towards the relief of those who should be the objects of his tenderest regard.

I intend in making this communication, to present some practical remarks on Amenorrhæa, with a few cases. This disease may be divided into three kinds: viz. Amenorrhæa Emansionis, Amenorrhæa Difficilis, and Amenorrhæa Suppressionis: the last is the one of the most frequent occurrence, and the one on which I shall principally treat. Though the remedies adapted to one, are often properly employed in all forms.

The common causes and symptoms of this disease, are generally well known to medical men—therefore to mention a few of the most prominent will be sufficient for my purpose. One of the principal causes at the present time is the mode of dressing, &c. universally adopted by the ladies—the married as well as the single. How is it possible, for a female to escape serious constitutional derangement, when the parts which have a primary agency in carrying on and sustaining the operations of life, are submitted to such rigid confinement and compression? how can those organs of such prodigious vascularity receive and give off their due proportion of fluids, when they are literally choaked and wedged in upon each other, forming at the same time strong adhesions, by slow but certain inflammation?

The currents of life, must of necessity, be thrown out of their natural and easy channels, and while one organ or part has too much blood, another has too little—in short, all the harmony of all the secretory operations must either be interrupted, or finally destroyed—for there must exist a harmony or balance of actions among the organs of secretion, to constitute health Another very general cause, is the great imprudence which females are guilty of during the periods of menstruation—as they then so frequently expose themselves to sudden changes of temperature—hence cold becomes a very prominent cause of Amenorrhæa Suppressionis—to these causes I will barely add, strong passions of the mind during the menstrual period.

In the treatment of this disease, a due regard must be paid to the state of the system at the time, as in some cases there is considerable inflammatory action, with plethora—in others great debility and laxity of system. In the former case I have often found it necessary to employ the lancet, pretty freely in the first place, with active purging—after this the two great divisions of the disease require nearly similar remedies—as the former, is, artificially, somewhat converted into the latter, condition of the system.

In all cases in the first stage I employ Mercurial Aloetic purges—not only by way of clearing out the morbid contents of the bowels, but to excite, more or less, the uterine system. These to be efficient should consist each of 20 grs. of calomel and 10 of aloes—one to be given night and morning, or every day, until four or five doses are taken—after this, use the following pills, R. Cal. grs. xxiv Aloes: spicat ℈ijss. Sal. Mart. ℥j. Syrup q. s. M. Fiant pilul. xxiv. Capiat j. ter die, or morning, noon, and night, continue these until all are taken, or the mouth and gums are slightly affected—then they are to be omitted until this symptom subsides, when they are to be resumed—Sometimes that number will be sufficient, but more frequently it will be necessary to take as many more—While taking these, at any time when hysterical symptoms arise, I direct a tea spoonful of hartshorn and lavender, to be taken in a wine glass of sage, balm, or mint tea, and repeated—also a pill of camphor and assafœtida 5 grs.each, at any time when there is great nervous

agitation, or when the patient cannot sleep well, and repeat the dose in three or four hours if the desired effect is not produced. This combination will sometimes act better than opium as an anodyne—when that is demanded I always unite it with a few grains of camphor—In some cases attended with great nervous irritability, as well as general weakness, I have, instead of using the chalybeate preparation above mentioned, given 5 grs. of rubigo ferri and as many of assafœtida, ter die—or oftener In the year 1820, I was called to a young lady, who had been given out by an Irish quack, who said she was laboring under typhus fever; a few weeks previous, when she was menstruating, she exposed herself very much to wet and cold, which suddenly suppressed the menses, and brought a train of violent nervous symptoms—when I saw her she had become furiously hysterical—at times screaming, tearing her hair, and throwing herself about in the most frantic and convulsive manner—touch her and she was instantly in violent motion. In this state nothing could be administered internally. I therefore ordered a pair of large blisters, to the inside of her thighs and high up. When these began to draw well a tranquil period presented itself, when I directed her the following bolus:--R opii gr.ii. camph. gr. v sulph. aurat. antim. grs ij Vol. Alkali grs. V. and repeated it in about two hours, she soon became moist and composed, and slept several hours, when she roused and had another paroxysm of screaming, &c. but it was comparatively slight and transient. I immediately left her, went home, and sent her a large vial of hartshorn and lavender– with a large box of the pills composed of the carbonate of iron and assafœtida, which soon cleared out every vestige of her disease, and she became one of the heartiest women in Virginia.

As a common drink during the treatment of most cases of amenorrhœa, I recommend a strong infusion of the Polyg. seneg. as a valuable auxiliary to the other medicines, and particularly where there are œdematous swellings of the lower extremities. I have also used a combination of the tinct. digital. et. sp. nit. dulc. when this symptom was present, and there existed some febrile excitement in the general system—from 15 to 20 drops of the former, with ʒij of the latter, thrice a day in a little cold water, will be the appropriate dose in these states. This remedy was used with much benefit in the following case:—On the 2nd. of Feb 1811, I was called to a servant woman of Mr. B. Fauquier, co. Va. she was about 20 years of age, of a spare delicate frame, and had not menstruated for about 2 years

Every symptom unfavorable, and indicating the highest derangement of the whole constitution—As her pulse indicated it on the 2d, and 3d I bled her and purged her by giving four mercurial aloetic cathartics—On the 5th she had symptoms of hysterics, when I commenced the use of fœtid deobstruent pills, composed of cal. G. ammon. alo. et assafœtida, and gave one, ter die—10th, symptoms more favorable, but considerable œdema of the feet and legs—prescribed the T. digital. et sp. nit. dulc. as above—13th, smart morbid excitement of the arterial system—which induced me to bleed her again, moderately—the pills to be continued—15th much better, but persist in the use of the pills—19th, slight symptoms of ptyalism—omit the pills—but continue the digital, &c. 22d: Pills of opium, with flor sulph. on account of ptyalism—24th œdema, and every other symptom of actual disease vanished.

A very formidable case occurred in my practice a few months ago. A handsome, and to all appearance a healthy young woman, between 17 and 18 years of age, who had never menstruated, was suddenly attacked with high fever, pains, and plethora of the head and breast—in a short time she began to throw up one mouthful after another of blood from the lungs—and that as fast as she could spit it out; until she became alarmingly exhausted and began to sink rapidly—In this deplorable situation, I found her, knowing there was no time to be lost, I mounted my horse and rode with all speed to my office, which happened not to be far off, and got some tinct. ferri. mur. which I had at once thought of, and gave her 10 drops, in a little cold water, every 10 or 15 minutes until the hemorrhage abated, when it was given at longer intervals—It acted like a charm—I also ordered, two large blister plasters to be applied to the interior and upper portion of the thighs, cooling drinks, &c. &c.

With respect to amenorrhæa emansionis, the same remedies that have been advised in the suppression of the menses will generally be found adequate to the removal of that form of the disease—In cases of dysmenorrhæa, or painful menstruation I resort to large doses of opium and camphor; sometimes preceding their use by the lancet.

I have in these brief and hasty remarks included the few and the main remedies or emmenagogues which I employ; and rely upon it, in amenorrhæa in all its forms, they have seldom deceived me—I have also resorted to others, such as the tinct. cantharid. ergot, savin, &c. &c. but never with any thing like the same happy results.

Haymarket, Virginia.

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2 *Letter from Wm. S. Mac-Dowell, M. D. of Fincastle, Virginia, to the Editors.*

Gentlemen,

I have met with the following case of polypus uteri. As this polypus was much larger than any one I have ever seen an account of, and appears to have differed essentially from the ordinary description of polypi, the case may not be uninteresting.

September 30th, 1827, D. J. a free woman of colour, unmarried, aged 38,—who had borne one child 22 years ago, was taken with a profuse flooding, accompanied with labour pains. On examination per. vaginam, her female attendants found the passage filled up with a fleshy tumour. I visited her on the first of October at 2 P. M. at this time, hemorrhage had ceased, labour pains were less frequent, the end of the tumour which appeared pyriform, *narrow below, growing broader upwards*, projected from the vulva to the extent of one or two inches; her pulse, notwithstanding the previous hemorrhage, (which was represented to have been excessive) was tense and frequent, tongue dry and covered with a brown fur, bowels had been costive several days, no urine had been voided for more than 36 hours.

Deeming the system too much excited for farther examination at this time, I drew off the urine with a catheter (which was introduced with much pain and difficulty, owing to pressure of the firm substance on the urethra,) took ℥xvi of blood from the arm, administered 10 grs. calomel and 20 of rhubarb. Saw her again at nine o'clock, pulse better, pains much abated; evacuated urine again with catheter, and a copious alvine evacuation elicited by glister, so far tranquillized the system, that a more particular and thorough examination was made.

The projecting substance appeared about the size of a turkey's egg, and from its shape, firmness, smoothness, and from a well formed indentation for an os tincæ, I first conceived it to be procidentia uteri: but the probe not entering the apparent os tincæ, and easily passing up the pelvis to its full length on every side of the tumour, was decisive against that supposition. Introducing my hand into the uterus, which was effected very gradually, and with great difficulty, I discovered that the projecting substance, was only the neck of a large solid pyriform body contained in the uterus, pending, by a tolerably thick pedicle, from the right side of the fundus uteri. The pedicle was firm, and thickest at its connexion with the tumour, and seemed to taper to the uterus.

Although this tumour differed materially from the ordinary description of polypi, I from full examination concluded decisively that the disease was of that character, and determined on its removal; but concluded to await, until the entire tumour was expelled from the cavity of the uterus, that I might be enabled to adjust a cord accurately about the pedicle, which I feared to attempt in the present situation with the double canula, as commonly practised; lest owing to the tapering shape of the pedicle, the cord might slip up, and include a portion of the uterus, which was especially to be apprehended, if there was any tendency to inversion.

A case of fatal issue I once witnessed, from including a portion of inverted uterus, in the removal of a polypus not bigger than the fist, in the hands of an experienced and accomplished surgeon. He was not admonished by any symptoms, such as

unusual pain, vomiting, tremors, &c. of the real state of the case, which was not evident, until the polypus came away, when on examination, a portion of the uterus was found attached to the pedicle. The patient died the following day. That cases of this kind are not unusual, with the use of canulas, I think we may be justified in concluding, from the fact, that several *successful* cases are reported wherein it had occurred. The fatal cases of this kind, would be less apt to obtain publicity; though I should suppose them much the most numerous.

In the case under consideration, I awaited the decent of the polypus until the afternoon of the 2d October. When the pains having continued, and rather increased since the evening before, without any farther advance of the polypus, hemorrhage recurring, the patient being very much exhausted, and fearing the consequences of the repeated forcible introduction of the catheter, (this being the only means of discharging her urine,) I with the approbation of Drs. Caruthers and Waltz, grasped the neck of the tumour, and forcibly extracted it, producing complete inversio uteri. A strong cord was then firmly tied about the pedicle, and the polypus was amputated.

There was in this case no tendency to spontaneous readjustment of the uterus, (as appears to have happened with the patient of Vaccotian, wherein inversio uteri happened, from the descent of a polypus expelled by the efforts of nature,) I was under the necessity of reducing this inversion, by the introduction of the hand. October 3d, patient tranquil, pulse better than yesterday, administered 6 grs. calomel. October 4th, spent a good night, pulse full but soft, and slower than yesterday, took ℥12 of blood from the arm as a prophylactic. Administered a gentle cathartic every 2d day, until the 12th, when she was dismissed cured. The cord came away on the 7th day after the operation.

No untoward symptoms occurred subsequent to the removal of this polypus, which measured 9 inches in length, and 17 inches in the greatest circumference of its body. It was in structure of a semicartilaginous appearance, and was remarkably light. V. S—,and cathartics, were not resorted to to allay inflammation, but to prevent it, for which they were successful. The fever under which the patient laboured prior to the operation daily abated, and the state of the digestive organs daily improved after the operation.

Polypi of the uterus, are described by all authors that I have read (as well as I can remember,)to be pyriform, and largest at the base or lower end, and tapering to the pedicle. The most common diagnosis given us between a projecting polypus, and prolapsus uteri, both of which are pyriform, is that "polypus resembles an inverted pear, being thickest below, and becoming gradually more slender upwards, whereas, prolapsus presents a tumour smallest below, and increases in size upwards." "While," says Cooper, "the inverted uterus lies in the vagina, its shape is broad above, and narrow below, whereas the polypus is thin above, and broad below." Now this criterion, which is generally esteemed one of the strongest for forming a diagnosis, is directly at variance with the case I have described; which was a polypus, broad above, and narrow below.

The subject of this disease, had been afflicted with symptoms of polypus, five or six years, such as pain and weakness of the back, disagreeable dragging sensations at the groins, with gradual enlargement of the abdomen, frequently attended with alarming hemorrhage; but unaccompanied with gastric derangement, or loss of flesh, although most of the time, she was the subject of empiricism.

Since the removal of the polypus, she professes to enjoy as perfect health, and as much strength as at any former period of her life. Her system seems to have sustained no inconvenience from the forcible and sudden inversion of the uterus.

Query, May not this be a safer, as well as a more expeditious mode of extirpating polypus uteri generally? I was emboldened to practice the plan in this case, in consequence of the recommendation, or rather at the *suggestion* of M. Baudeloque. The result, inclines me to claim for it a preference generally, when polypi are attached near the fundus uteri, to groping in darkness and uncertainty, with the ligature and canulæ.

Of the cases of Necrosis reported formerly, I will here make some additional remarks. I visited Miss Gray yesterday, December 8th: from whom the carious ribs

were removed last spring. She has improved in her general health, the tent by which the discharge from her lungs was facilitated, has been long since discontinued; it was forced out by granulations. Her cough is yet occasionally troublesome, and when most so, a mixture of pus is expectorated with the mucous; her bowels are frequently disordered, they are affected by the slightest exposure to cold, or by trifling irregularities in diet, though it is seldom necessary to resort to medicines for relief. She has considerably improved in strength, and her appearance is healthy and cheerful; she has gained some flesh; but not as much as her appetite, and the appearance of improvement of the digestive organs would have warranted the expectation. Her ultimate recovery, it may be easily inferred, is yet matter of doubt.

The state of the other cases reported at the same time, are in statu quo.

December 9, 1827.

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3 *Extract of a letter from one of our correspondents, Genessee County, New York.*

Since reading Dr. Cartwright's treatise on Pneumonia Biliosa I have adopted his plan of treatment; particularly the large doses of tartarite of antimony, in a number of cases of that complaint and with the most complete success. I have also adopted it in those bilious fevers common upon the margin of the Genessee river, whether attended with local inflammation, or congestion, perceptible or not, and have never found any course comparable with it for equalizing the circulation, and completely removing the disease, or changing it into the intermittent form, which has been readily removed by the quinine.

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4 VACCINE INSTITUTION.

The vast increase and growing population of our country, and the great importance that ought to be paid to promote Vaccination by every citizen of the United States, has induced a number of medical gentlemen to enter into arrangements to establish a Vaccine Institution in Philadelphia, on the most liberal principles: one of whose objects will be to keep a regular supply of pure matter, at the publication office of the Medical Recorder, on such conditions as will no doubt meet the approbation of the profession Physicians at a distance, particularly subscribers to the Medical Recorder, will find great advantage in having an opportunity of receiving matter with the journal, four times a year; besides, it will be transmitted much safer than in a letter. The particulars of this intended institution will be made known as early as possible. In the mean time, pure matter will be furnished, subject to the future regulations of the Institution.

August, 1826.

Agreeably to the above, arrangements were made in the early part of the following year to keep a constant supply of pure matter, and to furnish it at three dollars a *scab*. It was also suggested that a number of Physicians, particularly in the country, might unite and subscribe ten dollars, for which a fresh scab would be sent four times a year, (once every three months in the Medical Recorder.) It is presumed this plan would furnish a regular supply to whole neighbourhoods, at a very trifling expense, say from one to two dollars a year, as it is believed there would be no difficulty in finding from five to ten Physicians residing within a short distance of each other in almost every part of the United States, and that one, or more of them takes the Medical Recorder.

The utility of such an institution to the profession and to the public will be readily appreciated.

Gentlemen embracing the above mentioned arrangements will transmit the amount of subscription at the time of subscribing—remittances may be made in the usual manner pointed out in the Recorder.

All communications, post paid, to be adddessed to the Vaccine Institution, office of the Medical Recorder, Philadelphia.

JAMES WEBSTER, *Agent for the Institution.*

5. CASE OF DISEASED OVARIA, in a letter from David Porter, M. D. of Cookstown, Pa. to the Editors.

June 12th, 1824 My advice was requested by William B—— (a black man) in the case of his wife Sarah, in labour with her first child. She was attended by a neighbouring midwife, and had, the day before, a healthy child, but remaining very large, another was expected As her labour, however, did not return, and she appeared to be sinking, the midwife wished my advice.

Upon examining her abdomen externally, I supposed there was another child; but, to my surprise, on a *per vaginam* investigation of the case, found nothing in the womb but the placenta lying unattached. This I withdrew, and then proceeded to examine the state of the uterus more minutely. It remained so little contracted that the hand could turn freely in all directions, which evidently arose from extensive adhesions it had formed while in the pregnant state. This accounted for the retention of the placenta, but I was surprised, under the circumstances, no considerable hemorrhage had taken place.

The woman complained of little pain, but a sense of sinking with a feeble intermitting pulse, cold sweats, &c. plainly portending the issue of the case, and on the next day she died.

I could receive nothing in the previous history of the patient calculated to throw any light on her case. She had been married three years before she became pregnant, but during pregnancy, nothing occurred to mark her case, except that she was unusually large.

Having a strong desire to examine this singular case post mortem, I attended on the day of the funeral, and after contending with an unusual share of superstitious prejudice, obtained a reluctant and very qualified permission to do so. The examination was made in the presence, and with the assistance, of a neighbouring physician.

On laying open the abdomen, a regularly oval, whitish, elastic tumour presented, extending from the os pubis to the epigastrium. It was an enlargement of the left ovarium, which, apparently the better to accommodate itself to the cavity of the abdomen, had got directly behind the uterus. The latter, which indeed appeared nothing more than a flabby appendage, was twisted before it, together with the right ovarium, which had also grown to about the size of a hen's egg.

This tumour, in its growth, had evidently separated the lamellæ of the ligamentum latum, until it came in contact with the uterus, to which it had formed an intimate adhesion of perhaps three inches in diameter.

Having examined it in situ, we cut it loose and found it to weigh about eight pounds. On cutting into it, we found it cartilaginous, and conveying a sensation not unlike the cutting of a ripe water melon, except that externally it was gritty, as though from an admixture of sabulous matter. It contained numerous ragged intercommunicating cells, which were filled with a dark thin fluid, resembling strong coffee. The intervening texture, except the flacculent circumferences of the cells, was dense and intricately fibrous, and, for the most part, of a light grey colour, though here and there it was darker. No more time was allowed for examination.

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To the Editors of the Medical Recorder.

6. I regret that this will not probably reach you before the Recorder is printed; you will, however, please to insert the following corrections of the sheets, which you so obligingly sent me, of the translation of Dr. Popken's essay, in a table of errata.

In page 51,	line 6	from the top,	for confusedly	read confessedly.
53,	18	bottom,	symptoms	symptom.
57,	4	bottom,	fever	Jever.
63,	10	top,	system	symptom.
64,	9	bottom,	edamptic	eclamptic.
68,	5	bottom,	consequence	importance.
70,	2 from	bottom,	sanguinaria	serpentaria.
72,	1 of the	formula,	3ss.	3j. & ss.

Some of these errors, and others that the reader will naturally correct, arise, I presume, from the defect of the manuscript, and are not necessarily to be attributed to the compositor and proof-reader. There are, besides, two or three defects in the numbers of the chapters, and a few others which do not materially affect the meaning or grammatical construction.

I thought it very desirable that Dr. Popken's history should be presented to your readers as early as in the January number of the Recorder, or I might, *perhaps*, have annexed to it a brief dissertation upon the nature and causes of epidemic diseases. I say *perhaps*, for I am not quite sure that I could, notwithstanding my attention has for several years particularly turned to this important branch of medicine, have added any thing that would be new or interesting upon this very obscure subject. I will, however, make a few desultory remarks in this letter, of which you are at liberty to make what use you may judge expedient, meaning them only as hints for future consideration.

Notwithstanding the diffusion and extent of the fever of East Friesland, and Groningen, in 1826, as it was confined to a low and paludal tract of country, and possessed a decidedly intermittent and remittent character, in the strictest medical language it must be considered as an extensive *endemic*, rather than an *epidemic*. It, however, in some respects, had the characteristics of both, its periodical remissions and local causes belonging to the former, and its extensive diffusion, severity, and malignancy, to the latter. It does not, however, necessarily follow, that epidemics are more severe in individual cases than endemics. Influenzas are the most extensive epidemics in the world, and yet they are not generally severe or malignant. Yellow fever is usually endemic, and it is much the most mortal of any acute febrile disease that ever scourges any part of the United States.

Now, there is no mystery that intermittents and remittents should prevail in such a paludal country, but the question is, why they should assume such a peculiarly typhoid and malignant form in 1826, when, for the ten preceding years, these very diseases had exhibited a mild and inflammatory character? Why would not Sydenham's epidemic of 1673 bear purging? Why do the fevers of some years appear to exert their greatest influence on the sanguiferous system, producing the peculiar re-action, suffusion of the vessels, flush and heat, with the fetid excretions, and strong tendency to sphacelation, which are commonly called *putrid* symptoms, while in other years the brain and nervous system principally labour, and there are tremors, subsultus, gastric sinking, and a strong inclination to syncope, with little heat or acceleration of the pulse? Why do measles, whooping cough, and small-pox, sometimes spread with great rapidity, and at others become suddenly extinct, or nearly so, even in a great city, while there are still innumerable subjects within the usual sphere of their influence? Why does typhus often rage in the dead of winter? Why does the cholera of India frequently spread from village to village in the very face of the monsoon, which is blowing in an opposite direction? Why does an influenza frequently travel in a few months from China to Ireland, or as our missionaries have lately reported, from the United States to the Sandwich Islands? Why should, at times, typhoid diseases pretty nearly disappear, for twenty or thirty years, as was the

fact in New England after the revolutionary war? What has become of the ancient sudor Anglicus, or why is there so little of the Levant plague in Christian Europe? Why does the dysentery sometimes yield like a charm to the illustrious Zimmermann's cream of tartar and tamarinds, at others, to very large doses of antimonials, or of calomel, and at others still, to opium and cinchona after diaphoretics? Why have intermittents and remittents, with one or two partial exceptions, disappeared for these last seventy years upon the Connecticut, and why do they still occur on the Housatonick? Why does the same *error in the non-naturals*, at one time, prove to be the exciting cause of fever, at another, of pneumonia, at a third, of dysentery or of diarrhea, at a fourth, of catarrh, &c? Why are these complaints sometimes mild and benign, and at others, as severe and malignant as the plague? If I answer by saying that all these phenomena are to be accounted for, from the different predisposition, diathesis, epidemic constitution, or whatever other term may be used; it is only stating the fact in employing a single word, and does not explain the subject or satisfy the mind.

Although the field is all but boundless, it ought, by no means, to hinder us from exploring and accurately surveying those parts of it which lie more immediately around us, that we may form a tolerable accurate map of those sections which we are obliged to occupy.

Yellow fever, bilious fever, remittent fever, with some descriptions of dysentery, cholera, &c. which belong to summer and autumn, and which either cease entirely, or are much checked by winter, would appear to compose a peculiar class, and to be of miasmatic origin. The various kinds of typhus, typhoid pneumonia, typhoid cynanche, influenza, &c. as they may appear and spread at any season of the year, seem to belong to a very different class, and can hardly be considered as miasmatic, in the usual acceptation of the term. It is this class which constitutes the pure epidemics, which occasionally appear in every part of the habitable globe. The first class are strictly endemics, and cannot spread except in certain regions, and in particular seasons. Much confusion arises in authors from their not distinguishing endemics from epidemics. A district is salubrious that is not subject to endemics; but no locality is, at all times, exempt from epidemics. It is concerning the latter class, that there arises the greatest difficulty in satisfactorily accounting for their causes. And I fear, with all the science and observation of modern times, we have arrived at no more certainty on this point, than was possessed by Hippocrates and his contemporaries. As diseases are not generally capable of being divided into distinct species, in the same sense as plants and animals, it is allowed that these two great classes frequently run into each other, and modify one another, yet there are still ordinarily sufficiently definite boundaries to maintain the two grand divisions. There is also a third class, such as measles and small pox, the decidedly contagious, which, though obviously separate, is yet liable to be considerably modified, during the prevalence of either of the other.

My knowledge of the ancients is quite limited, but judging from the works of Hippocrates and Celsus, I should imagine that they were but slightly acquainted with pure typhus, and that the simple fevers described by these writers mostly possessed an intermittent character, and belong to what I consider as the miasmatic class. This class is very obviously much influenced and even controlled by time, season, and locality. As far as I have been able to trace the subject, I should say, that except as respects the *exciting* causes, none of these circumstances have any very evident connection with the second class of diseases. I have seen most of the second class in every month of the year, and in almost every conceivable location, and though I could frequently assign very plausible reasons for their being more aggravated at some times, and in some seasons, than others, I have never been able to assign a more satisfactory cause for their appearance and *general* character, than that such was the *epidemic constitution*.

You will therefore perceive, Messrs. Editors, some of the difficulties, to my mind at least, with which this intricate subject is surrounded, and under all these circumstances, you will not wonder that I should feel a reluctance of attempting, at present, any thing like an elaborate dissertation upon the causes of epidemic diseases, since, according to my views, they are very distinct from endemics, though I agree that they are both susceptible of modification from common circumstances.

With my sincere acknowledgements for the very courteous manner in which you have treated my translation of Dr. Popken's valuable essay,

I am, very respectfully, yours,

THE TRANSLATOR.

P. S. It is much to be regretted, that Dr. Popken did not favour us with details of two or three of his severest successful and fatal cases, that we might know precisely the quantities of aromatics, cinchona, opium, and wine, which it is occasionally necessary to employ. Many able physicians often show a very ill-judged delicacy in suppressing accounts of the severest cases, which are the principal subjects in practice that require to be particularly elucidated.

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7. To the Editors of the Medical Recorder.

Gentlemen,—The *anti-hemorrhagic effects of* Capsicum are well known to many physicians, and in some parts of the country it is much employed for this purpose; and yet I do not recollect to have ever seen any thing published upon the subject. From the many trials which I have made of it, I have no doubt that it may be safely and effectually administered, *in almost every case of sudden and alarming loss of blood*, except in traumatic hemorrhage. It may be given in tincture, infusion, powder, or pill. In case of sudden emergency, from three to five grains of the powder may be prescribed every ten minutes, till the bleeding is stopped; and while the hemorrhagic disposition remains, it may be given in this quantity, every three, four, or six hours. It is very essentially assisted by combining with it from half a grain to a grain or more of opium, in all cases that are attended with much debility. In uterine hemorrhage, after parturition, it is highly indicated, often stopping it like a charm; and it is no less beneficial in most cases of menorrhagia. In hæmoptysis and hæmatemesis, its effects are no less sudden and salutary; and in that terrible symptom, hemorrhage from the bowels in low fevers, in combination with full doses of opium, repeated every three or four hours, or oftener, it is more certain than any other article whose employment I have ever witnessed. In *active* hemorrhage, unless the loss of blood that has already occurred should have removed or materially have lessened the entonic diathesis, its employment should be preceded by venesection; but it is obvious that this measure is rarely requisite, after a spontaneous loss of blood has become so great as to be truly alarming. In porphyra hæmorrhagica, and in many other cases, when there is not instant hazard, I would purge with oil of turpentine, previous to giving the capsicum. From having long been in the habit of prescribing this article very freely, both externally and internally, in a great variety of atonic diseases, it would be very difficult for me now to dispense with it, as in many cases I know of no complete substitute for it in the materia medica. In the stage of exhaustion in fevers, when the debility is very great, we have few excitants of equal value. In the same state of the system, in pneumonia typhodes, cynanche maligna, and most other *passive* inflammations, it is equally efficient; and in many cases supersedes the use of those immense quantities of wine and brandy, that are often resorted to on such occcasions. I am ready to acknowledge, that I am very ardent in commendation of this article; but I speak from the most ample experience; and I sincerely hope, that neither you, nor any of your nume-

rous readers, will consider me as whimsical or enthusiastic, till after you have given a fair trial to this very important article of the materia medica.

MEDICUS.

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8. ADDRESS TO THE PUBLIC.

The Managers of the Baltimore General Dispensary feel much gratified in being enabled to announce to the public, that they have entered into an agreement, suggested by the Physicians of the institution, by which a constant supply of genuine and recent vaccine matter, selected and preserved with care, will at all times be kept at the Dispensary in Holliday-street.

It is entirely superfluous for the managers to urge on an enlightened public the importance of vaccination. An experience of many years has realized almost to their fullest extent, the high hopes of the great and philanthropic Jenner.

It is now considered a fact in medical history, based on repeated and satisfactory experiments, that vaccination, when performed with proper caution, either prevents Small Pox entirely, or so far modifies its poison as to render it no longer dangerous to the few individuals, who may still be in a slight degree susceptible of its influence. For the accomplishment of this object, it is necessary that the vaccine virus, preserved in such a manner as to be capable of exerting its influence on the human system, should be constantly accessible. This desideratum, the managers conceive, will be fully supplied by the plan which they have adopted. The matter will be always ready for such as may call for it without any regard to the state of security or alarm in the public mind.

In the course which they have adopted, the Managers have been actuated both by a desire to benefit the community at large, and to aid in some slight degree the very limited resources of the benevolent institution over the interests of which they have been appointed to preside.

For the information of all who may feel interested in knowing the price of matter, the following rates of charging have been determined on for the present.

The price of each scab, to persons calling at the Dispensary for it, shall be two dollars.

To persons ordering matter by letter, the price will be five dollars for a single scab, or three scabs for ten dollars.

The Physicians residing in town or country who shall contribute five dollars annually or become members for life by paying fifty dollars, the privilege of having every year three scabs free of charge, shall be granted in addition to the ordinary privileges of contributors.

LUKE TIERNAN, President.

Alex. Fridge, Secretary.

Letters addressed to the Baltimore General Dispensary, Holliday street, Baltimore, *post paid*, will receive due attention.

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9. *Catalogue of the Officers in Yale College, November*, 1827.

FACULTY.

Rev. JEREMIAH DAY, S. T. D. LL. D. President.

Hon. DAVID DAGGETT, LL. D. Professor of Law.

NATHAN SMITH, M D C.S.M.S. Lond. Professor of the Theory and Practice of Physic, Surgery, and Obstetrics.

BENJAMIN SILLIMAN, M.D. LL. D. Professor of Chemistry, Pharmacy, Mineralogy, and Geology.

JAMES L. KINGSLEY, A. M. Professor of the Hebrew, Greek, and Latin Languages

ELI IVES, M D Professor of Materia Medica and Botany, and Lecturer on the Diseases of Children.

Rev. NATHANIEL W. TAYLOR, S T D. Dwight Professor of Didactic Theology.

JONATHAN KNIGHT, M D. Professor of Anatomy and Physiology, and Lecturer on Obstetrics.

JOSIAH W. GIBBS, A. M. Professor of Sacred Literature.

Rev ELEAZAR T. FITCH, A. M. Professor of Divinity.

Rev. CHAUNCEY A. GOODRICH, A. M. Professor of Rhetoric and Oratory.

DENISON OLMSTED, A. M. Professor of Mathematics and Natural Philosophy.

LUTHER WRIGHT, A. M Tutor.

AARON N. SKINNER, A. M. Tutor.

MILTON BADGER, A. M Tutor.

WILLIAM M. HOLLAND, A M. Tutor.

THEOPHILUS SMITH, A M Tutor.

SIMEON NORTH, A B Tutor.

M. CHARLES ROUX Instructor in French and Spanish.

CHARLES UPHAM SHEPARD, A. B. Assistant to the Professor of Chemistry.

MEDICAL EXAMINERS.

ELI TODD, M. D.
SILAS FULLER, M. D.
THOMAS MINER, M. D.
ELIJAH MIDDLEBROOK, M. D.

SUMMARY.

Theological Students,		50
Law Students,		20
Medical Students,		91
Resident Graduates,		5
Seniors,	85	
Juniors,	89	
Sophomores,	83	
Freshmen,	78	
Undergraduates,		335
Total,		501

10. Record of the quantity and depth of Rain, in Philadelphia, for eighteen years.

FROM THE UNITED STATES GAZETTE.

Gentlemen—In addition to the meteorology of the last year, I have the pleasure to present to my patrons, the public, a correct account of the quantity of rain, snow and hail, (the two last melted) which has fallen in Philadelphia and its vicinity during the last 18 years. The register of the first fourteen years was kept by P. Legaux, Esq. at Spring Mill, 9 miles N. N. W. from the City. The last four years has been carefully registered by myself in Philadelphia.

The favourable notice which my observations have hitherto received from many scientific gentlemen, has convinced me of the value of an accurate record of meteorological facts. Their recorder occupies the important post of

Pioneer in the path of knowledge and science, and his efforts, however humble, necessarily precede the splendid career of authors of theories and founders of systems. I shall therefore continue a monthly meteorological report, which I hope to render more valuable by the addition of careful barometrical observations, a register of the prevailing winds, and notices of other atmospherical variations.

THOMAS SMITH, Gardener

Philadelphia Labyrinth Garden, Arch st. Jan. 8, 1827.

1827.	THERMOMETER.												Rain Guage.	
Months.	Mean Temperature.			Aggregate of Mean Temperature.	Maximum.		Minimum.		Range.		Depth of Rain.	Rainy days.
	Sun ise.	Noon.	3 P M.		Days.	Deg.	Days.	Deg				
January	20	30	30	27	27th	47	17th	5	42		2.62	5
February	30	34	34	32	16th	48	12th	14	34		3.55	8
March	36	52	52	46	31st	71	15th	25	46		1.33	5
April	38	67	68	57	15th	76	19th	30	46		2.82	7
May	43	71	72	62	16th	78	10th	38	40		2.25	4
June	47	79	81	69	9th	90	1st	40	50		2.03	9
July	65	85	87	79	1st	94	23d	50	44		3.15	9
August	67	82	83	75	6th	99	25th	50	49		6.16	5
September	51	77	75	66	25th	82	4th	5	37		95	2
October	46	71	71	62	7th	79	27th	30	49		6.63	7
November	31	47	47	41	1st	60	25th	20	40		4 39	6
December	34	45	45	41	9th	61	23d	16	45		3.50	13

DEPTH OF RAIN.

	Inches.		Inches.
1810	32.65	1820	39.59
1811	34.99	1821	32.17
1812	39.31	1822	29.84
1813	35.67	1823	41.82
1814	43.14	1824	38.74
1815	34.66	1825	31.55
1816	27.98	1826	30.25
1817	36.00	1827	39.18
1818	30.18		
1819	23.34		621.06*

The number of days on which RAIN fell is,

in 1824	103
1825	89
1826	117
1827	80

* Which averages 34½ inches each year.

11. INTRODUCTORY LECTURE.

THE Medical Class of the University of Pennsylvania has published the Introductory Lecture of Dr. Samuel Jackson to his course on the Institutes of Medicine; it is a production worthy of its highly talented author. We propose to publish it entire in the next number. The election of Dr. J as assistant lecturer to the Theory and Practice of Medicine and Clinical Medicine in the University of Pennsylvania, will no doubt add to the character and respectability of the school.

12. TO THE PHYSICIANS OF NORTH ALABAMA AND ADJOINING COUNTIES OF TENNESSEE.

AT the ensuing meeting of the Medical Board to be held in Huntsville on the first Monday in December next, the attendance of the Profession, generally, is requested. The object of this meeting is to establish a MEDICAL SOCIETY, the importance of which is too obvious to require remark. We are pleased to observe that the measure has been approved and supported by all the members of the profession to whom it has been proposed; and we hope a general interest will be felt for its success, and active measures pursued to effect its objects. As the adoption of a constitution, the election of officers, and fixing the time and place of meeting in future, are subjects that will occupy the attention of the members, in organising the Society, we trust, that as many of the profession will attend as may find it consistent with their convenience to do so.

M. S WATKINS,
E. IRBY,
ALEX'R. ERSKINE,
D. M. WHARTON,
GEO. R. WHARTON,
THOS. FEARN,
JOHN R. LUCAS,
E. PICKETT.

Huntsville, November 5, 1827.

EXTRA-LIMITS.

[Many of our subscribers, who are members of the New Jersey Medical Society, have expressed a desire to see published, the Address delivered by Dr. Reynolds, before that body at their annual meeting, in 1822. Having obtained a copy from Dr. Reynolds, we have thought proper to present it to our readers, more especially as the subject of which it treats, is not, we presume, devoid of interest to the profession.

This we do, notwithstanding an interesting essay on the same subject has already appeared in our number for April, 1827, by Dr. Henderson, which though replete with valuable historical details, is not extended beyond the epoch of the revival of learning in Europe. Dr. Reynolds, however, has traced in a cursory manner up to the present time, the rise, progress, and decline of those doctrines which have successively held an extended sway over the medical world. *Eds.*]

A Discourse on the Rise and Progress of Medicine, delivered by Dr. Wm. G. Reynolds, formerly President of the New Jersey Medical Society, and now a practitioner in the city of New York.

A KNOWLEDGE of the ancient state of medicine, or the progress by which it has gradually approached perfection, is a subject from which practitioners would expect to derive but little practical benefit at the present day, and, as far as I know, it is one that engages but a small share of the attention of the generality of medical students; yet it is one not totally devoid of interest or utility, and should not be entirely neglected by the enquiring physician. To view the progress of the human mind through the mazes of an erroneous philosophy and ill-founded hypothesis; to observe with what confidence and admiring applause, systems and remedies have followed each other, and in due succession have been exploded to make room for new ones, with perhaps hardly a single ray of truth to flash upon the labours of a century; though they afford but a humiliating picture of the extent of our boasted intellect, cannot fail to gratify curiosity, and at the same time, serve us as lessons of instruction by which we are to avoid the errors of our predecessors and the useless labour of retracing their footsteps.

Medicine may, in its most limited acceptation be defined, The art or faculty of preventing, curing, or obviating the diseases to which the human species are subject. The fabulous history of the antients derives this art immediately from their gods, and even among the moderns some profess to think it of divine revelation. It would be idle to attempt to trace the state of medicine in the rude ages which preceded the light of history, or to decide how or where it originated: disease is the lot of humanity, and remedies or attempts to relieve, must have been coeval with disordered functions. The human savage, on the approach of pain would naturally enquire into its cause, and seek a remedy in the removal thereof, or in the adaptation of some counteracting power; and to such efforts we may in all probability ascribe the first germ of the healing art.

In the early ages the most obvious mode of obtaining relief was to expose the patient in the street, and claim the greater sagacity or experience of those who passed; and when either a natural sagacity or opportunities for observation, were combined with a ready recollection, they constituted the physician of rude ages.

The Egyptians to whom we perhaps too complaisantly attribute the earliest advances in all sciences, were supposed to be acquainted with the structure of the human body from their practice of embalming, and their surgery, as described by Prosper Alpinus, was considerably advanced; but he wrote after modern improvements had, or might have been, carried to Egypt. Dr. Blumenback assures us that the process of embalming was rude and hastily performed. But the recent persevering researches of Mr. Belzoni in Upper Egypt, place it beyond a doubt that this process must at some uncertain period have attained great perfection, at least in as far as respects the durability of the subject. We are told with triumphant confidence of the Egyptian Thoth and Isis, and of Horus the son of Isis (the Apollo of the Greeks); they also had their Esculapius, whom the Greeks transferred to their own nation; and after him, we find Machoan and Podalerius, two sons of Esculapius mentioned by Homer, and many others, all of whose real characters are so completely wrapped in metaphor as to elude all our endeavours to determine, with any degree of certainty, what had ever been the state of medicine in antient Egypt.

Among the antient Jews, if any thing like medicine ever existed, it was confined to mere human invention unguided by science. It was not believed that the Deity provided for the cure of disease in the qualities of this or that herb or mineral, all was ascribed to his miraculous power. In this imputation however, we must exempt the Hebrew law-giver. Independent of his inspiration, we perceive in the precepts of Moses unequivocal traces of a deeply penetrating and enlightened mind. In forbidding marriage between individuals closely allied by blood, he doubtless sought to prevent the extension of hereditary diseases, and the pernicious influence to the human constitution, of the too early and promiscuous intercourse between the sexes: in the erection of the brazen serpent, he has discovered to us his knowledge of the influence of imagination on the physical faculties; and in the interdiction of certain meats he betrays no inferior knowledge of dietetics.

We do not here allude to incidents so late as our Saviour's time; but for a long space after the days of Moses, we do not find that the professions of priest and physician, were in any instance united in the same person. When king Asa was diseased in his feet, "he sought not to the Lord, but to the physicians;" and Ahaziah, king of Judah, when he sent messengers to Baal-zebub, God of Ekron, did not desire any remedy from him or his priests, but only to know whether he should recover or not. Had the Jewish priesthood been supplied for a few successive generations with such men as Moses, they might have stood forth the successful rivals of the Egyptians and Greeks in the medical science of the day. But the Jews were surrounded by fierce and powerful enemies, and too constantly engaged in rapine and bloody warfare, to spare much time for the cultivation of science.

To the Greeks we must look for the earliest recorded facts in medicine. Their first practitioners were probably priests, the most successful of whom were soon deified. Superstition gradually mixed in the scene, and dreams in the temples of the gods, or incantations and amulets, soon corrupted the few lights which experience had suggested: Yet by means of the temples a degree of consistency was preserved; these were the receptacles of the cases recorded by patients; and from the temples of Esculapius, Hyppocrates is said to have drawn his best observations.

Previous to the time of Hyppocrates, medicine seems to have been studied only as a branch of philosophy, and its practice never to have extended beyond the confines of the temples; he first gave it the form of a distinct science, and personally observing the progress of diseases as well as the effects of remedies, is the first to whom the appellation of physician in its modern acceptation is due.

In approaching Hyppocrates, we feel as though we were treading upon holy ground; his name sanctuarised by the universal veneration of more than an hundred generations, and his doctrines regarded as authoritative precepts in every age, are not open to the profanation of vulgar scrutiny; nevertheless we cannot pass him unnoticed in this enquiry. Let us then with becoming deference examine the validity of his claims. He was born in the 80th Olympiad, 460 years before the birth of Christ; said to be the 17th in a direct line from Esculapius; he died at Larissa, at the age of 90 years. He first practised physic at Thasus, then at Abdera, and last in Thessaly, but his principal residence was at Cos, whence the Coan school became for a long time the successful rival of the Gnidion. Beyond these facts, all that relates to his private life is doubtful, and the tales either to his honour or discredit are not to be relied on.

Under the name of Hyppocrates we have read works of very different value, and interpolations have crept into the best of them. To separate the real from the spurious works is a task of no small difficulty, it was attempted at the end of 500 years by Galen, and since by Mercurialis, Haller, and others, who have considered brevity, gravity, and the absence of all theoretical reasoning as the true test of the genuine works of this father of medicine. But after all their labor, the task is not yet completed; the best works must be received with some hesitation; the line is not accurately drawn, and perhaps great accuracy is unnecessary

The anatomy of Hyppocrates is superficial and incorrect. He only dissected apes and quadrupeds, and applied his observations to the human body; and never but once had an opportunity of seeing a human skeleton. Of his physiology much is fancy, and more conjecture; and his latitude of expression often obscures his meaning thus νευρον (neuron) signifies a nerve, a ligament or a tendon; φλεψ (pleps) a vein, an artery, or an excretory duct; αιμα (aima) not only blood but any watery fluid, and the nervous fluid, the air inspired, which he conceived to mix intimately with all the fluids of the body. He alleged the existence of four fluids in the body, viz. blood, phlegm, yellow and black bile, their common source the stomach, but each had its peculiar origin. Blood proceeded from the heart, phlegm from the head, yellow bile from the gall duct, and black bile from the spleen. The spinal column is described as consisting of twenty vertebræ; and though the error is corrected towards the end of the book, it is evidently by a later hand.

Hyppocrates describes the daily progress of diseases with much accuracy and perspicuity, and his practice may be divided into dietetic, surgical, and medical. Acute diseases he thinks are cured by nature, and the physician must look on and attend; such as have a fair proper crisis we must not disturb: in these he employed low diet and forbade exercise. His observations on the pulse are few and meagre. On the excretions from the lungs, stomach, and bowels, distinct and pointed, and on the appearance of the features, full and discriminated; yet with all these signs to assist the judgment, he viewed the prognosis in acute diseases as very uncertain. His surgical operations were few, yet his observations on wounds and abscesses are thought worthy of attention at this day. The operation of lythotomy was performed among the Greeks by particular persons, and he advised it never to be done except by them. Indeed we find in the oath required of physicians after the days of Hyppocrates, that they were restricted from the performance of this operation. His materia medica is comprised in a narrow compass, the helabores, colocynth, elaterium, oxydes and scales of copper, onions, garlick, wild parsley, wine, honey and cantharides were the chief, the latter he used in dropsies; and five of the flies with their heads, feet and wings taken off, he employed to expel the secundines! When abscess had followed peripneumony, a most singular method

was employed to purge the lungs; a decoction of different acrimonious plants sweetened with honey was directed to be poured into the trachea, the passage to which was opened by drawing aside the tongue!

It has been customary, even down to our own day, for authors to refer to the doctrines of Hyppocrates for the proof of certain principles in medicine; and the axiom that a knowledge of nature is the first principle in medicine, has been urged with great zeal to prove that he who saw this position in so strong a light, must have been acquainted with the structure of the human body; but this tenet occurs in one of his doubtful works, and we have seen how far his knowledge of the anatomy and laws of the body extended. If then in the present improved state of human knowledge, combining and diffusing the discoveries of an enlightened age in so concentrated a form as to come under the eye of every industrious physician, we frequently fail in our attempts to correct the vacillancy of nature, what must have been the case in the days of Hyppocrates, when the human mind had not yet been awakened to the perception of Nature's laws?—Each of you will answer the question to himself.

But I wish not to retrench the merit of Hyppocrates: his works are to be valued for their polished terseness of style, the candid relation of facts, and the firm undeviating integrity which seems on all occasions to have regulated the conduct of this truly great and good man. Considering the difficulties of his day; the superstition of the Greeks, who thought themselves polluted by the touch of a dead body; the embryon state of most of the physical sciences, and the strife of contending opinions, together with the many obstacles to his practical course of a local nature: these in view, and we must regard Hyppocrates as justly entitled to the appellation of the *father of medicine*. But it must not be concealed that his practice was wholly empyrical, and the same may be said, with some little exception, of all the antients from Hyppocrates down to the Arabian physicians. Their doctrines were little more than mere notes of practical observations in pathology, and the medicines employed were not prescribed under any rational theory of their modus operandi; but only because under similar symptoms they had been found beneficial. These laws and recondite properties of matter which have since furnished the more permanent and certain basis of the healing art, and which have required the joint labour and experience of millions to elicit, were not known or promulgated among the antients. If a genius arose, whose opinions shed a ray of light on the misty errors of the day, it was but as the flash of a meteor, and all was again dark. Even the arteries long after the time of Hyppocrates were not admitted to contain blood.

The descendants of Hyppocrates, continued in the same line with no essential improvement in practice, and but little innovation in physiology for several ages About three centuries after him, we find the name of Praxagoras, who is said, in desperate cases of ileus, to have opened the abdomen and intestines in order to evacuate the fæces, and then to have sewed up the wound in each. This he might easily do; but if he afterwards generally cured such patients, human nature must have differed somewhat from its present standard. The era of the Alexandrian school produced some geniuses whose names have withstood the wreck of time. Erasistratus, one of the principal supporters of that institution, is said to have approached very near the secret of the circulation, but could not understand the use of a double heart. His system however rested on the idea of the arteries, containing nothing but a spirit; he was fearful of bleeding, lest the blood should find a way from the veins to the arteries!—at least, so says Galen.

Nearly a century after Erasistratus, appeared Hierophilus, he was, according to Galen, acquainted with the whole science of medicine; he was minute in his prognostics from the pulse, and used vegetable medicines principally, of which helebore was the chief. About this time, Serapion of

Alexandria gave birth to the sect of the empyrics, by proposing a nearer cut to the knowledge of the healing art, than the tedious and unpleasant round of anatomical dissection. Contending that all dogmata in medicine was useless or injurious, he maintained that casual information, with one's own observation aided by analogy, was a sufficient qualification for the practice of medicine. Of the practice of this sect, Coelus Aurelius has left us specimens, Castor, Opium, Cicuta and Henbane, were their principal remedies. Serapion is thought to have been a pupil of Hierophylus, but his era is not very certainly ascertained.

Somewhere about this time, Asclepiades of Bythinia, appeared in Rome, as a physician. He became the friend of Cicero, and was unquestionably a man of considerable address and merit. Pliny says he was a rhetorician in his own country, and commenced physician only after his former profession had failed in the capital of the world; but Plutarch says he was an experienced surgeon. The doctrines of Asclepiades, effected a revolution in medicine, and some of his followers soon modifying his principles, so as to suppose they formed a sure path or track for physicians: they were termed methodics from Methodus *via*. He was a man of polished manners and fascinating deportment, and adorned his theory with all the art of his former trade. Pliny has left us a long account of the arts by which he gained his reputation; and a modern writer adds, "They were such as every fashionable physician employs, viz. pleasing the patient and avoiding every thing that can give pain, till nature cures or sinks under the disease."

The philosophy of Asclepiades, was that of Democritus, as reformed by Epicurus; it rested on Corpuscles flowing through invisible pores; he rejected the doctrine of Hyppocrates, respecting the intelligence of nature, and her influence in curing disease: Nature he contended was nothing but the body or its motions, and instead of curing, was generally injurious. Digestion he thought unnecessary, supposing that the food was carried into the blood and there attenuated till it was adapted to the pores of the vessels, which conveyed it as nourishment. Hunger was induced by the relaxation of the larger, and thirst of the smaller vessels. Inflammation was owing to obstruction either from the magnitude, figure, multitude, or rapid motion of the atoms; pain to obstruction from particles of a large size, and the absence of the smaller ones. Faintings, dropsies and hectics, arose from the too great size of the pores, and dropsies he thought might depend upon the transudation of the flesh, which then became water. Quotidians were occasioned by obstruction of the larger particles, tertians of less, and quartans of the least.

We can hardly believe the healing art to have gained much by the adoption of such principles; yet it is worthy of remark, how far the mind may wander from the sober path of sound reason and correct thinking, when fancy under the guidance of a false philosophy, or unaided by a true one, is suffered to take the reign Frivolous and unmeaning as were these postulata, Asclepiades soon became the most popular and fashionable practitioner of his era. He curtailed the rigid abstinence of the Greek physicians, gave wine moderately, recommended frictions, gestation, baths, *&c.* and professed to cure with speed, safety and no inconvenience. He declared he deserved no credit if he was himself unwell, and fortunately for the credit of his system, he died in extreme old age, in consequence of a fall over the stairs.

From the era of Asclepiades, Rome was destined to become the rival of Greece, in respect to medical science. The profession was for several centuries afterwards held in high estimation in the Roman capital, which period might properly enough be termed the medical era of the republic.

Long before this time, medicine had been divided into three branches among the Grecians. But the Romans on the positive assertion of Pliny,

had been without any other medical resource than blind empyricism, superstitious charms, or religious ceremonies, for nearly six hundred years from the time of Romulus.

The methodic sect soon split, and subdivided into such variety as would require great detail to investigate minutely; each adopting some peculiar doctrine or tenet from which was derived its allusive or distinctive appellation. Celsus was of the methodic sect and a Roman of the Augustan age. In his medical works he has chiefly followed Hyppocrates, except in respect to critical days; and on this point he laughs at Hyppocrates, and ascribes the invention to a superstitious attachment to the Pythagorean doctrine of numbers: he however is not the servile imitator of the Grecian sage, he in some respects prefers Asclepiades and quotes from many medical authors. In a terse and luminous style he has correctly and minutely described the practice and opinions of the antient physicians.

From the time of Nero to that of Trajan lived Dioscorides and Pliny. Our materia medica is at this day indebted to the labors of these authors. From the preface to the works of the latter, it is probable he was a practitioner of medicine, and from his predilection for the sect of Asclepiades we suspect him to be of the methodic sect. About the same time though the precise period is uncertain, appeared Areteus, he leaves few marks of the methodic sect, which was popular at that day. His language is terse and luminous, and whatever may have been the precise principles upon which his practice was founded, it was certainly in many respects, active, judicious and enlightened. He endeavoured to investigate the cause of disease by anatomical dissection, and was the first who taught that the nerves crossed each other in the form of an X; thus he explained the paradox of disease appearing in injuries of the head on the opposite side to that where the injury had been received. He used emetics and active cathartics freely, and drew blood frequently from different parts of the body; but under what precise circumstances, or by what principles his practice was in this respect regulated, we are unable to say. Certain regulations in diet was greatly relied on in the treatment of acute diseases, yet he employed arteriotomy, cupping, leeches, frictions, and other active remedies: also wine and opiates freely, under certain restrictions. In short, practitioners at this day will find in Areteus the most sagacious and useful medical observations.

We are sorry our limits forbid a detail of the doctrines which governed the practice of Areteus, which we believe to be among the most sagacious and effective of the ancient physicians; and we equally regret our inability to trace the influence which the revolutions in the Grecian philosophy had on the state of medicine. Sound philosophy is as indispensible to the development of genuine medical science, as soil, air and light are to vegetation. In short, medicine is essentially little more than the application of the principles of philosophy to organized living bodies, properly regulated by correct conceptions of the laws of animal life; and as it requires the steady aid of philosophy to keep it consistent, so it never could have budded or progressed as a science without her illuminating ray and fostering spirit to direct its pursuits and support its claims.

But such philosophy did not exist in the ages of Greece and Rome. The honor of its development was reserved to sages of a much later period; to men of the most profound and lively genius, whose correct habits of thinking and experimenting burst the fetters by which the human mind had been bound to the erroneous dogmas of the antients, or the scholastic subtilties of the middle ages.

We must pass by names conspicuous in medical history, to arrive at the period of the famous Claudius Galenus, who lived in the second century of the christian era, and was physician to the pious Marcus Antoninus. He studied at Alexandria and Rome, and was distinguished for a lively fancy

and uncommon ingenuity. He attained all the learning of his era, and was soon disgusted with the prevailing systems of medicine, professing to collect from each what was most valuable: he was called an Eclectic. And though he censures the methodic sect, his doctrines appear to be tainted with some of their tenets, for he borrows his notions of the vital, natural and animal spirit from the pneumatics who were a branch of the methodics. Galen wrote diffusely on every branch of medicine, but he is said to have added only dress and ornament to the system of Hyppocrates. His fame however so dazzled his cotemporaries and successors that we find but few who dared to think beyond his circle: in fact his undisputed sway over the realms of medicine continued for more than twelve hundred years.

After Galen, medicine began to decline, and we find but a few names thinly scattered through several of the succeeding centuries. Oribasius, physician to the Emperor Julian, in the fourth century, was a practical man of no little merit. Aetius lived in the beginning of the sixth century, and is said to be the first Greek writer among the christians who gives us any specimens of medical spells, and charms. His works shew forth the ridiculous quackery of the day, and how wofully superstition was beginning to degrade the healing art. Alexander lived in the reign of Justinian the first, and is recommended by Dr. Friend as one of the best practical writers among the antients and well worthy the perusal of any modern. Paulus, of the Island of Ægina, appeared in the seventh century. He is called by Dr. Friend the Ape of Galen; he is however not without originality. He performed several surgical operations, particularly that of lithotomy, and is the first instance on record of a professed male accoucheur.

After the establishment of christianity, some of the christian bishops and priests directed their attention to medicine. But the sun of science had now sat for a season; and though some faint rays shot forth under the Arabian princes, and we find from the tenth to the twelfth century, the names of Rhazes, Avicenna, and Avenzoar, yet they soon withdrew, and left a long night of mental darkness over the civilized world.

In all this time from the days of Hyppocrates, we cannot perceive that medicine gained any thing, except in practice, from the good sense and experience of some professional individuals

Various and gradual were the means by which the human mind was aroused from the lethargy of the dark ages. The Greeks had at no time suffered a total extinction of the spark of science; scarcely a generation passed without producing some men of professional merit. When Amurath the second monster of that name took possession of Thessalonica in the year 1430 of the christian era, Theodore Gaza escaped with some of his literary treasures to Italy; and a few years after, when Constantinople shared a similar fate, others followed the example of Gaza, and were kindly received by the Medici family at Florence. From the manuscripts thus preserved was soon disseminated the stores of Grecian literature. With literature the old Galenian doctrine revived; but we hardly know of any set of opinions that could be considered as introducing decided theory into medicine until the time of Paracelsus. He blended the chemical doctrines of the day with medical theory; burnt in solemn state the works of Hyppocrates and Galen as no longer useful, professing to cure all diseases speedily by chemical remedies; and after declaring himself to be in possession of the universal medicine to secure immortality, he died at Saltzburg in the 48th year of his age.

Van Helmont the successor of Paracelsus was a man of superior talents, distinguished by sagacity and judgment; he however inundated the whole science of medicine with the mysticism of the alchemical doctrine and language. He supposed a principle which he terms Archæus to superintend and preserve the animal economy. This idea was probably suggested by the

Anima Mundi of Plato, and is in no essential respect different from the soul of Stahl, or the Vis Medicatrix Naturæ of modern schools

That extravagant and restless spirit of enquiry or innovation which in the course of our research we have so often found seducing physicians beyond the sphere of sober investigation, seems again to have burst forth in the 17th and 18th centuries; yet it was accompanied with exertions truly honourable to science. Many learned societies were instituted, and medical enquiry prosecuted with a zeal and success hitherto unknown. Physiology derived many acquisitions from the labors of this era, among which the circulation of the blood is by no means the least essential. This important discovery we all know, Englishmen to support their claims of pre-eminence, have uniformly ascribed to their countryman Dr. William Harvey about the year 1619. But it is not so generally known, that Servetus a Spanish physician, was in full possession of the secret nearly 70 years before. This unfortunate man, was tried for heresy, and brought to the stake by Calvin; and all his books ordered to be burnt with him, which sentence was duly executed, excepting the volume containing an account of the circulation of the blood, which was concealed by one of his judges, and after running the round of Dr. Mead, the Landgrave of Hesse Castle, and others, is now about to meet the light in a typographical character through the generosity of Dr. Sigmond.

To the notions of Van Helmont succeeded the humoral and chemical doctrines of lentor and thinness of the blood, fermentation, acidity, alkalescency, the irritating spicula of saline substances, &c. but chemistry was not then sufficiently advanced to afford adequate support to these opinions, and though advocated by Boerhaave, Sydenham, Farnelius, and other eminent men, they gradually gave way to new theory.

The mechanical physicians, forming a host, at the head of whom we find Borelli, Baglivi, Mead, Keil and others of first rate eminence, attempted to explain the laws of physiology by an application of the principles of mechanics, but this in turn was superceded by the doctrine of morbid action and spasm, first suggested by Hoffman, and afterwards adopted and extended by Cullen, who rejected in toto the humoral pathology.

The name of Stahl is now unjustly confounded with the visionary philosophers. He possessed a superior degree of acuteness, and is the first who painted out the peculiar laws of animal life, or the phenomena evinced by a living machine, distinct from a series of tubes propelling fluids mechanically. He first taught how health or disease depended on a due balance of the several movements of the living machine, or a disturbance of the equilibrium; and in fact laid the foundation of the nervous pathology of Cullen, who however, is suspected of receiving it at second hand from Hoffman. A leading feature in the Theoria Medica Vera of Stahl is that the mind actuates the body not only by willing the end, but the means; so that every distinct muscle, digestion, the peristaltic motion, and the several secretions are influenced by the same will, especially directed to the respective organs. The difference between this and the modern doctrine of a Vis Medicatrix Naturæ, is that the latter is believed to be the effects of organization, whilst the former, was attributed to the immediate influence of mind conscious of the error or defect in diseased action, and willing the motions necessary for the connection or supply.

The Theory of Dr. Cullen was compiled with great elaboration and method, yet it had scarcely left the hands of its venerable author, when it was eclipsed by the doctrine of Browne. This singular genius grounded his pathology on the principle that excitability is accumulated during rest, and exhausted by exertion; and perpetually renewed for the demands of the system by food and sleep: That health, predisposition and disease depends on the various relations and proportions of this principle, acted upon by stimulus; that the

living state of bodies is a forced one, produced by the action of exciting powers on the excitability.

The celebrated Erasmus Darwin was the cotemporary of Brown. He ascribed the phenomena of health and disease to irritative, sensitive, voluntary, and associative motions in the sensorium and correspondent motions in the fibrous system. His doctrine is before the public, and is a rare specimen of lively genius, profound thought, and extensive research.

The followers of Brown and Darwin were numerous, but the doctrine of Cullen predominated in the schools, at the time Dr. Rush filled the chair of medicine in the University of Pennsylvania. This excellent man finding the existing principles of the science inapplicable or incompetent to the end, in the many new and anomalous forms of disease which the circumstances of our country had produced, was led by a penetrating and unperverted mind, to engage in a wider scope of observation and research.

Rush ascribed disease to a morbid action in the living solids, or irregular and suppressed action superinduced by the undue application of exciting powers to the living system. He maintained the unity of disease, contending that the various genera and species of nosologists, were merely so many forms of disease, or varieties of morbid action; and that after the removal of the exciting causes, to add, abstract or equalise excitement, on plans strictly conformable to the state and condition of the system, constituted the most effectual mode of cure.

In this hasty sketch we indulge in no comments on the respective merits of the systems before us, it is sufficient for the present occasion to say, that modified as the fancy or judgment of individuals dictate, and more or less collectively taken, they constitute the basis of the doctrine of the schools, and the best medical practice of the day.

A new pathology, called the doctrine of Stimulants and counter Stimulants, now taught by Signor Tommasini and other eminent Italian professors, has lately reached us through the London and Philadelphia Journals. This doctrine coincides with the Brunonian in the notions of life, and in the first most simple division of diseases into Sthenic and Asthenic; but it differs materially from the latter in the assumption. 1st, That many substances have an action or effect on the living fibre directly opposite to that of Stimulus, and produce of themselves a state of Asthenia or debility, which Brown ascribed solely to the excess or defect of Stimulus. 2d, That those agents called counter-stimulants, do away the effects of excessive stimulus even without any evacuation, and if carried too far induce asthenic diseases, which again require an increase of opposite agents to remove. 3d, That in counter-stimulants we have a remedy for every morbid affection resulting from excessive stimulation. 4th, That the capacity of the system to support large doses of stimulants or counter-stimulants, is in proportion to the intensity of opposite diathesis present. 5th, That the capacity of the system to bear counter-stimulants affords a juster measure of the intensity of the diathesis, than any to be collected from the symptoms themselves. Inflammation is held to be always sthenic and consists in excessive excitement.

In the class of sedatives or counter-stimulants are ranged the acids mineral and vegetable, most of the metallic preparations including mercury and iron; and of vegetables, the Hyosciamus, Aconitum-napellum, Belladona, Cicuta, Digitalis, Lauro-cerasus, Ipecacuana, Squills, &c.

A diathesis partaking neither of the sthenic nor asthenic, may be produced by irritation inducing irregular or discordant movements of the living fibre, and our reporter observes that this position ought always to be held in mind by the attentive practitioner in treating the diseases of children, in whom we often see the most alarming symptoms supervening from the irritation of worms, unripe fruit, or other indigestible matters. Pain whatever may be its cause is held to be a state, more or less strong, of counter-stimulus.

In these assumptions we have an imperfect view of the leading features of the new doctrine now emanating from the Italian schools. We have not time at present to travel far after proofs of its validity, but will observe with the reporter, that in the most successful plans of cure heretofore pursued, and in the practice of the best schools, its most essential principles will find support. Almost all the remedies employed to expel or correct, to sheath or obtund acrimonious matters, or to tranquillize or alter the state of the system, were of the class here denominated counter-stimulants. We profess ourselves to be of the number of those who sincerely rejoice in every discovery that may tend to lessen the burthen of human ills, and should the new doctrine receive the sanction of well directed experience, we will be among the first to give it an assenting voice. We however are inclined to regard as essentially defective, every system which does not embrace under some form or other the principles of the humoral pathology, or which denies the existence of that substantial basis on which the doctrine of vitiated fluids is grounded, and from which it has been degraded by the indulgence of wild fancy and mistaken hypothesis. We indeed suspect the efficiency of every theory professing to conduct the cure of all disease on a few general principles; it is believed, that from the very nature of the subject, medicine does not admit of such simplicity. The human body consists of a vast number of parts, differing widely from each other in structure, functions, and susceptibilities; and is liable to such diversity in the cause, grade, and character of its diseases, as to render semeiology at all times a dark and difficult department of medical science, and to destroy our hope of ever succesfully combatting the long list of human ills by an adaptation of the same general principles to each individual case.

When the humoral pathology prevailed, it sunk under the task of explaining every morbid phenomenon. The archeus of Van Helmont, medica anima of Stahl, and Vis Medicatrix of more recent date have done much injury by encouraging delay in the application of remedies. The system of Cullen offers but feeble remedies for yellow fever, gout, &c. And fortunate indeed must have been the advocate of the doctrine of morbid action, who has not repeatedly found his principles thwarted, and his expectations disappointed in the application of his favorite doctrine to the ever varying forms of disease. Each of these opinions embraces some truth, but none of them the whole of it. Something essential is still wanting to complete an effective system of pathology; perhaps the principal members of such a system is at this day scattered among us, and want but the hand of a competent genius to arrange and methodise them.

The principle of life whatever may be its simple or abstract character, does not solely govern the organized body possessing it, it is in a state of perpetual struggle with the chemical attractions of the constituent particles of such body. All the secreted fluids admit of the perpetual play of chemical affinities, including the agencies of galvanism and electricity; hence the principles of chemical science must be duly respected in any pathological system which would truly tend to advance medicine to the greatest possible state of human perfection. I am well aware that a belief in the utility of chemistry to medicine is not popular among the physicians of this country, but I also know that a contrary opinion is supported by some of the most eminent men of the day, and has facts and arguments in its favour too strong and numerous to admit of refutation. I do not mean to assert that every property of the living fibre is explicable upon chemical principles alone, or that the living solids do not possess in themselves peculiar properties which require to be distinctly and attentively studied. I only express a conviction that the relation of chemistry to medicine is by far more intimate than is generally admitted by the great body of the faculty; and that to improve essentially in pathology we must not neglect a science by which alone we can

expect to arrive at a true knowledge of the character and properties of animal products, and of many of the phenomena exhibited by the living body. In determining the healthy or morbid state of the secretions or excretions, of the blood, the bile, the bones, nature and use of respiration, source of animal heat, and numerous other facts of equal importance in the animal economy, we rely for accuracy and success mainly, if not solely, on the application of an enlightened chemistry.

It is foreign from the present object to dwell expressly on the advantages to be gained by the adjunction of chemistry to medicine, but the time must come, when the fact will be admitted by every truly unbiassed and enlightened mind. And it is hoped the era is now at hand, when the medical society of the State of New Jersey, in whom is reposed the confidence of our community in most matters that relate to medicine, will so far support the doctrine, as to regard a competent and correct knowledge of chemical science as an indispensible requisite to a medical education.

The question has been agitated whether medicine has been improved in later periods, and a sweeping argument to prove that it has not, is, that we still resort to the older authors, and disease is still mortal as before. We may reply, that since the days of the visionary Paracelsus, medicine has never been regarded as the instrument of immortality. But to determine the point clearly, we have only to contrast the result of the best modern practice, with that of the hot rooms, the warm stimulating medicines, sudorifics, and seclusion from fresh air &c. of the Galenists, and let the bills of mortality decide: now death from a fever is comparatively rare, formerly recovery was equally so. We indulge less in abstract disquisition respecting the causes of disease and the operations of remedies; our indications are more clearly pointed, better chosen and more direct, and our remedial resources more accurately adapted to the end, than in former days.

It has been gravely asserted that medicine has produced more ill than good to mankind. Compare the effectual checks put to the progress of epidemic and contagious diseases by medical means, with the devastations they produce when left to themselves; and the great proportion of recoveries from wounds and maladies treated by judicious art, to those left to nature; look into the walks of private life, and see what a vast saving to the peace, happiness, and domestic comforts of families and individuals, by a kind and skilful interference of the physician, and we can feel neither doubt nor difficulty in deciding this point. A wise, discreet, candid, and feeling physician, is both an ornament and an honor to society; much is required of him, and much is in his power to bestow. And of such we trust our country can boast a goodly number, yet it must not be denied, that in the chequered body of the faculty, every intermediate shade of defection may be traced, down to the lowest species of empiricism; and too many individuals under the specious authority of law or custom, with emboldened confidence dispense their feeble pretensions to a simple undiscerning public. Of this class of men, some of them as deficient in morals as in science, we are unwilling to speak; but lament that to the many evils of civilized life this weighty and entirely artificial one must be added. The improvements now making in our modes of education, and the admission to medical honors will greatly lessen this defect, to eradicate it is beyond our hopes.

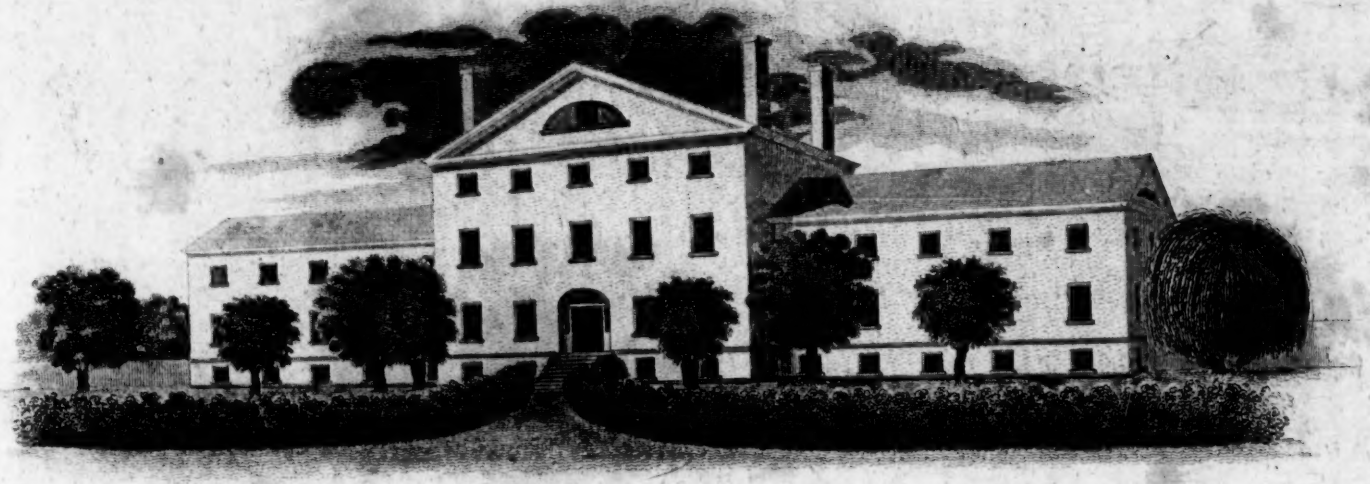
An error chargeable to the junior class of our medical brethren, and under the influence of which it is to be feared too many of us grow old and incorrigible, is, a too confident reliance on the powers of medicine. The favourite system adopted in our early studies, should be well examined as we advance in the experience of maturer years, yet this is sometimes neglected, and the principles imbibed during tyroism are with little modification applied to every form of disease. Whilst thousands fall victims to this error, it remains unexpiated, the want of success is charged to the inveteracy of the disease, without ever suspecting defection in the principles by which it is treated,

and it will not be denied that there are cases, where the constitution has had to withstand the united attack of the disease and physician, and in *some instances proved too strong for them both.* Undue attachment to exclusive system in medicine might perhaps vie with the sword or famine in the number of its slain.

If the preceding details be well founded, if none of the doctrines now recognised by physicians can tell us the whole truth, or induct us into a thorough knowledge of the causes and cure of diseases, what resource remains for the faculty? what fixed or certain rule can be substituted as an undeviable guide for the practical physician? we reply that we know nothing of the existence of such rules. A steady and intimate acquaintance with the laws of life, an attentive contemplation of the phenomena exhibted by the human body under all the varying conditions of health, disease, and predisposition, together with a strict observance of diseased organs under every varying symptom of their derangement, their sympathies, and their influence on the general system, will insure to the physician a better species of tact and a greater control over disease than is to be derived from all the exclusive system and nosological arrangement to be found in the annals of medicine. We are not unfriendly to the acquisition of principles in medicine. They are indispensable, but let them not be exclusive, let them be the result of experience and intimate observation of the laws of living matter; let the mind guard against delusion, yet mark with attention, and treasure up every uniform mode of action in the human body, and the agents that act upon it: from the store house of facts thus collected, we may with due logical precision deduce principles which cannot be shaken by every wind of doctrine issuing from the closet or the fertile brain of a high-famed name. We are not to reject principles acquired by observation, merely because they impugn doctrines already existing, but we are to test these doctrines by the same rules we employ in the admission of new principles. The same touchstone will determine the alloy of all the gold applied to it; and the touchstone of our reason and experience, under the essential advantages of a competent knowledge of the *physical* and *moral* sciences, will preserve consistency in medicine, and enable it to hold its ground against the encroachments of imagination, the rage of innovation, or the inordinate love of fame.

The God of the universe has destined the different orders of his creation to be governed by immutable laws; by a thorough knowledge of these, men would be enabled to imitate the processes and perpetuate the products of nature at pleasure, in as far as they were material. But the principles of these laws are too occult, the motive power too deeply concealed, too effectually barred, to be ever reached by the utmost exertion of human intellect, every essay to raise the veil of nature's secrets must end in death: no man can see my face and live saith the Lord. The passage to the tree of life is guarded by cherubim and a flaming sword which turns every way, lest man put forth his hand and take of the tree of life, and eat, and live forever.

This beautiful allegory of Genesis (3d and 22,) admits of an easy illustration, and affords an excellent lesson to physicians. We cannot extend our efforts beyond the line which infinite wisdom has marked as the bounds of physical attainment, nor coerce the steady purposes of unerring power; we may follow nature, but we cannot transcend, or violate her laws with impunity; hence let all our pretensions acknowledge their supremacy; and meekness and humility be deeply engraven upon the heart and forehead of every physician.



CONNECTICUT RETREAT FOR THE INSANE,

AT HARTFORD.

Drawn & Engraved by E. Gallaudet.

Third Report of the Directors of the Connecticut Retreat for the Insane, presented to the society, May 11, 1827.

OFFICERS OF THE RETREAT.

President.—His Excellency Gideon Tomlinson.
Vice-President.—Rt. Rev. T. C. Brownell.

Vice-Presidents for life, by subscription of $200 and upwards.

Oliver Wolcott	George Goodwin
Samuel Tudor	* Chauncey Deming
David Watkinson	* William Robinson
William H. Imlay	Elias Perkins
Thomas S. Williams	Joseph Battell
Henry L. Ellsworth	Joshua Stow.
Charles Sigourney	* Dead.

Directors for life, by payment of $100.

Daniel Wadsworth	William W. Ellsworth
Ward Woodbridge	Henry Seymour
Robert Watkinson	Eliphalet Averill
Elisha Shepard	Edward Watkinson
James H. Wells	George Smith
Daniel Buck	Asahel Hathaway, Jr.
Henry Hudson	Nehemiah Hubbard
David Porter	Abigail Hubbard
Reuben Langdon	Obadiah Brown.
Oliver D. Cooke	

Directors chosen at the annual meeting.

Eli Todd, M D.	Thomas C. Perkins
Rev. Thomas Robbins	Asa Farwell
Samuel B. Woodward, M D.	James Ward
M. F. Cogswell, M D.	James B. Hosmer
John Russ	Rev. Thomas H. Gallaudet
George Sumner, M D.	Joseph Trumbull
John Butler	Daniel P. Hopkins
Cyprian Nichols	James Dodd
Charles Sheldon	Gaius Lyman
Roderick Terry	John Olmsted.

Medical Visiters.

M. F. Cogswell, M D.	J. L. Comstock, M. D.
S. B. Woodward, M D.	E. P. Terry, M. D.
George Sumner, M. D.	S. W. Brown, M. D.

Henry Hudson—John Butler—James Ward, *Managers.*
Eli Todd, M. D. *Physician.*
Daniel Corning, *Steward.*—Mrs. Corning, *Matron.*

Report of the Visiting Physicians to the Connecticut Retreat.

THE committee of physicians appointed under the constitution to visit the retreat monthly, for the purpose of inquiring into its moral and medical management, have attended punctually to that duty.

Standing, as this committee does, between the public and the institution, and being required to report abuses if any exist, each individual composing it, has considered himself under obligations to examine carefully into every subject of importance touching its management. The characters of the keepers—the condition and treatment of the individual patients, and through the medium of the ladies, [who always compose a part of the committee on these occasions] the household concerns of the institution, have been ex-

amined every month, by your committee, and in all these respects we are enabled to speak with decided approbation.

The industry and fidelity of the steward and matron, are obvious in every part of the building. The department of the matron in particular has always been so conducted, as to attract the especial notice of every visiter. The good order and perfect neatness, which prevail throughout the building, and which adds so much to the comfort and health of the patients has always been a subject of gratification to the committee.

Of the moral, and medical management of the patients the committee are bound to give a brief detail, as the general plan of treatment adopted at this institution, is more or less original, and differs in some material respects from that pursued at any other hospital.

In respect to the moral and intellectual treatment, the first business of the physician, on the admission of a patient, is, to gain his entire confidence. With this view, he is treated with the greatest kindness, however violent his conduct may be,—is allowed all the liberty which his case admits of, and is made to understand, if he is still capable of reflection, that so far from having arrived at a mad-house, where he is to be confined, he has come to a pleasant and peaceful residence, where all kindness and attention will be shewn him, and where every means will be employed for the recovery of his health. In case coercion and confinement become necessary, it is impressed upon his mind, that this is not done for the purpose of punishment, but for his own safety, and that of his keepers. In no case is deception on the patient employed, or allowed. On the contrary the greatest frankness, as well as kindness forms a part of the moral treatment. His case is explained to him, and he is made to understand, as far as possible, the reasons why the treatment to which he is subjected has become necessary.

By this course, of intellectual management, it has been found, as a matter of experience at our institution, that patients, who had always been raving when confined without being told the reason, and refractory, when commanded instead of being intreated, soon became peaceable and docile.

This kind of treatment, of course does not apply to idiots, or those laboring under low grades of mental imbecility, but it is applicable to every other class of mental diseases, whether maniacal or melancholic.

In respect to the medical and dietetic treatment, it also varies essentially in the main, from the course adopted at other hospitals. Formerly patients laboring under mental diseases were largely medicated, chiefly by emetics, cathartics and bleeding. At the present time this mode of treatment has given place to intellectual and dietetic regimen, in most European hospitals. The physician of our institution has introduced a course of practice, differing from both these, but partaking more or less of each. He combines moral and medical treatment founded upon the principles of mental philosophy and physiology. In one class of cases moral, and in another medical treatment, become the paramount remedies, but in each class of cases, both are combined.

The proportion of cures which have been effected, at our retreat, has satisfied your comitttee, that the mode of treatment there adopted is highly salutary and proper. During the last year there has been admitted twenty-three recent cases, of which twenty-one have recovered, a number equivalent to 91 3-10 per cent. The whole number of recent cases in the institution during the year was twenty-eight, of which twenty-five have recovered, equal to 89 2-10 per cent.

At two of the most ancient and celebrated institutions of the same kind in Great Britian the per centage of recent cases, has been from thirty-four to fifty-four. In our own country at two highly respectable institutions the recent cases cured has amounted to, from 25 to 51 per cent.

These comparisons give a result in favor of the succes of our institution for the last year, which is highly gratifying to your committee, and which we

doubt not will be a source of particular satisfaction to those, through whose bounty an Asylum has been erected for this unfortunate class of our fellow beings.

Your committee cannot close this report in justice to the public, without mentioning that there are still wanted at our retreat, several conveniences, for the health and comfort of its inmates, which the present state of its funds will not allow. Among these, it is of great importance to the institution that there should be erected a small out building, or buildings for the confinement of such patients as are noisy and turbulent, so that they should not disturb those which are quiet and peaceable.

Mason F. Cogswell, Saml B. Woodward,
Thomas Miner, Geo. Sumner,
J. L. Comstock, E. P. Terry,
} Visiting Committee.

Hartford, May 11, 1827.

From the 31st of March, 1826, to the 1st of April, 1827, there have been sixty-two patients in the Institution, viz.—Old cases remaining at the commencement of the year, 20—Recent cases remaining at that time, 5—Total cases remaining in the Institution at the commencement of the year, 25.

Thirty-seven cases have been admitted in the course of the year, viz.—Old cases, 14—Recent cases, 23—Total, 37.

The whole number of old cases in the Retreat, 34—Recent cases, 28—Total of all cases, 62.

Forty-four cases have been discharged during the year, viz.—Old cases, 4 recovered—5 much improved—5 improved—4 stationary—Total, 18 old cases discharged.

Recent cases discharged, 25 recovered—1 much improved—Total 26.

Old cases remaining, 1 much improved—2 improved—13 stationary—Total 16.

Recent cases remaining, 1 convalescing—1 stationary—Total 2.——Total of all cases remaining, 18.

Aggregate, 29 recovered—8 much improved—7 improved—18 stationary—Total, 62.—*Deaths, none.*

By reference to the above details it will be seen, that an uncommonly large proportion of old, and hopeless cases are on the list. This could not have been avoided consistently with the original design of the institution, which, comtemplating the wants and the sufferings incident to insanity in general, extended its provisions with an unlimited charity to every victim of mental malady, whatever might be the form, degree, or duration of his disease. In this way, by the most unsparing efforts, it hoped to meliorate the condition, where it could not remove the cause of insanity; to lighten the sufferings of the manaic, when it might not restore him to the blessings of reason; on the one hand, administering every means of restoration to those who are within the possibility of recovery, on the other, offering to the victim of incurable insanity, a hospitable and permanent home. With such objects in view, it must be evident that the retreat is opened with a broader latitude of admission than is common to other institutions. The far-famed Retreat at York in England, professedly devoted to similar objects, admits no idiots, nor maniacal cases reduced to low grades of mental dilapidation. Of the thirty-four chronic cases, stated in the present report, nineteen are of the identical description which would have been excluded by the practice of that excellent institution. The remaining fifteen cases on the list, constituted the whole amount in that class, who were properly within the scope of curative treatment, and of this number, only a few were allowed to remain with us through the requisite term of trial prescribed, in such instances, by most other institutions. Six months residence in the retreat, has been thought, by many who have placed their diseased friends in the institution, to be a liberal allowance of time for deciding the question of recovery, in cases of

10 years duration. As if the chaos of illusions, teeming for years in a distempered imagination, and revived, with innumerable repetition, by the unexhausted workings of insanity, might be swept at once from the tablets of the mind, by a professional recipe; or the stormy passions of confirmed madness, already threatening the very foundations of intellect, might be hushed and subdued by the sovereign touch of some Æsculapian Trident. He who seeks for events, not in miracles, nor in magic, but in the operation of settled laws, will comprehend why years of persevering effort must be required, for the cure of long established cases of insanity, and although he ought never to be sanguine in his hopes, yet, if his mind be endowed with a tact to perceive the subtle individualities of a case, and detect them under the disguise of a general character, he will feel that such a case is marked as distinct, and separate from its class, and completely exempted from the general rules of treatment and prognosis; should he have learned to distinguish a derangement of mental functions, from a destruction of mental organs, where insanity in the one case, is disease, in the other, death of intellect; then he may occasionally have the unspeakable satisfaction to discover, here and there, a case on the melancholy list, where the still "glimmering embers of a nearly extinguished intellect" may be kindled, and nursed into a clearer, and brighter flame, by the delicate, and dextrous administration of long continued, and well adjusted moral and intellectual remedies.

After all, it is an affecting truth, confirmed by the experience of nearly all lunatic Asylums that, with every advantage of time, means and skill, the proportion of recoveries in this description of patients, rarely exceeds six or eight in the hundred. With this disheartening fact in view, the Retreat had not ventured to anticipate the good fortune it has realized in the recovery of 4 out of 15 cases from this class, amounting to the ratio of 26 per centum. While it unfeigned deplores the sad destiny of those who still remain unrelieved by its exertions, it cannot but feel consoled and supported by the consideration of its comparative success in a class of cases, where the nearest approach to hope, is often only a negation of despair.

The general course of measures pursued by the Retreat in the management of recent cases of insanity in the past year, has been most signally prospered. The whole number of this description of patients, including five that were in the institution at the commencement of the year, amounted to twenty-eight; of this number twenty-five have recovered, affording a proportion of recoveries equivalent to 89 in the hundred. Of the twenty-three cases admitted since the commencement of the year, twenty-one have recovered, affording the extraordinary proportion of 91 per centum—of the two remaining cases, one is convalescent with every prospect of rapid recovery, and should this be realized, which scarcely admits of doubt, the Retreat will then have witnessed in the course of one year, the recovery of twenty-two out of twenty-three of its patients, amounting to the unexampled ratio of 95 per centum. So great a proportion of these once miserable beings, raised from a condition, over which humanity would have mourned with its saddest tears, cut off from all the "linked sweetness" of conjugal, parental, filial and fraternal enjoyment, and become an insupportable burthen to themselves and to their connections, now restored to the blessings of health, to the felicities of affection, and to the capacity of performing the relative duties of domestic and social life, is an event that is truly affecting, and must diffuse a general feeling of benevolent satisfaction and joy—to the patrons of the Retreat it will be a peculiar gratification, and a rich recompense of their disinterested labours. For it is to them, and to their almost unparalleled exertions and sacrifices in behalf of insanity, rendered effectual by the blessing of HIM, who was seen on the earth, himself binding the broken spirit, and harmonizing the jarring chords of intellect, that our late sufferers are indebted for their restoration to health and to happiness.

PRIZE HOSPITAL REPORTS.

No. I.

We are sorry to see so much backwardness displayed by students attending on our public institutions, in embracing the offer we made in July last respecting Hospital Reports. We have, however, received one which we now publish, in the hope that it will prove a stimulus to others to follow this example. For more particular information respecting the correct method of drawing up these reports, we refer to the selection made from Johnson's Journal in the present number. We republish the offer made in July.

"In a late number of his valuable journal, Dr. Johnson prefaces an offer of a premium, consisting of a set of his journal, for the best quarterly report, with the following remarks. "Our readers are aware that, "in almost all the public hospitals of Paris, some distinguished ELEVE INTERNE is deputed by each physician or surgeon, to draw up a quarterly report of the diseases, to be published in some of the various medical journals of the French metropolis. This procedure is productive of many advantages. In the first place, the public at large are incalculably benefitted—in the second place, the medical officers of the hospitals are fairly represented, and their practice made widely known—in the third place, the pupil, who thus reports, is stimulated to acute and careful observation of the phenomena of disease, his mind is strengthened by exercise, his accuracy is guaranteed by the responsibility attached to the undertaking, and he is thus early introduced to public notice, and favourably so, if his reports are ably drawn up."

As we consider these remarks equally correct and valuable, the practice, one which ought to be introduced into our country, and willing to encourage such an undertaking, we hereby offer (adopting the plan of Dr. Johnson) to

STUDENTS OF MEDICINE,

A complete set of the Medical Recorder, commencing with 1822, and a continuation of the journal, free of expense, for two years, with a perpetual registry of the names of the successful candidates, together with their preceptor's names, in a permanent list set apart for that purpose, and kept standing in a conspicuous part of the journal, for the BEST quarterly report, which may be sent us, from any of the large hospitals in the United States. As Dr. Johnson says, "the prize is small, in pecuniary value, but the testimony of merit will be thus placed in a more conspicuous point of view than has ever yet been done."

WILSON W. KOLB, STUDENT OF MEDICINE.

BALTIMORE ALMS-HOUSE.

LUMBAR ABCESS WITH ABDOMINAL DROPSY, &c. &c.

MARY S. aged about twenty-one, was admitted into the alms house of Baltimore city and county, in April, 1827. Her general health very much impaired, pallid countenance, great debility, pulse frequent and small, some intumesence of the abdomen —slight ædema of the legs, catamenia suppressed, and gonorrhæa; supposed by herself to be pregnant. Shortly after admission, she complained of pain of the right

side, with some swelling of the part, soreness on pressure, pain and difficulty of motion in the right limb, with some degree of fever. An epispastic was applied to the hip, by which the pain was removed; and under the use of nitrous and antimonial medicines, the fever was abated considerably, though not entirely removed. A few days after recovery from the pain and swelling of the hip, considerable tenderness was experienced in the right side about the hepatic region—which like the pain of the hip, yielded in a few days to the effects of an epispastic, diaphoretics, &c. Some complaint being made about the last of June of weight and pressure in the uterine region, examination per vaginam was practised to ascertain the state of the uterus, and determine the presumption of pregnancy. The uterus was found in its proper situation, and of the size common to that organ in its ordinary state. The patient was pronounced not pregnant, and her condition was attributed to chronic visceral derangement, with tendency to abdominal dropsy. The abdomen at this time was more tender than natural; some degree of fluctuation was perceptible on percussion; sensibility to pressure over the abdomen about the right hypochondriac region. From this time the patient underwent a variety of treatment, chiefly such a union of the alterative aperients and tonic plan as seemed adapted to existing circumstances, and calculated to counteract the apparent tendency to the asthenic form of dropsy For some weeks she went on with very little obvious change of her general state. The abdomen rather increased in volume, but did not become greatly distended; the anasarca of the lower extremities continued, the pulse was always frequent and small, though not remarkably hurried; little or no febrile heat; thirst not unusual, and no complaint of particular pain in any part of the body. After the affection of the hip was removed, there was no pain or difficulty on motion of the lower limbs; the patient could lie on either side; could sit up, and occasionally walk about the ward, though the power of motion and exertion was necessarily much restricted by general debility. The condition of the patient varied but little from the first of July till the first of August, at which time the marks of constitutional failure became more manifest and decided. The intumesence of the abdomen was sensibly augmented, accompanied by great prostration of strength; more frequency and fulness of the pulse, some hurry and labour of respiration after efforts to move; and now for the first time was perceived some degree of cough, which, if existing at all in the former part of her illness, was so slight as to have excited no attention by the patient or her attendants. The symptoms denoting a serious waste of the vital energies now became every day more obvious and urgent, and the unfortunate patient sunk exhausted on the thirtieth day of August, 1827 One circumstance occurring in the progress of this case has been left out of the general description of symptoms, as deserving particular notice from the peculiar relation it was afterwards discovered to have held with the true nature of the principal morbid condition disclosed by post mortem examination.

Two or three weeks prior to the death of the patient, she complained of particular soreness and sensibility constantly present at one spot in the right iliac region, and mentioned the existence of a tumour at the spot referred to as the seat of pain. On examination an unusual prominence was evident immediately below the superior spinous process of the ilium; the tumour was small, tense, and somewhat painful to the touch, without evident marks of inflammation; communicating on pressure a sense of elastic resistance from fluid within, which seemed to present immediately through the tendinous fascia of the descending oblique muscle near its lower border; or having passed under the margin of the transversalis, pressed forward the integuments and formed a tumour over and upon the oblique faciæ (Poupart's ligament) just below the anterior superior spinous process of the ilium. The tumour was noticed as remarkable, and its resemblance to an occasional presentation of the matter of lumbar abscess was mentioned on its first examination, but taken in connexion with the state of abdominal dropsy and general anasarca, it was thought possible that the fluid accumulated in the cavity of the abdomen might point out, or present in the manner described, in consequence of particular relaxation or diminished resistance of the wall of the abdomen at that part. On subsequent examination of the tumour, the fact that it was equally prominent, tense, and resisting in all positions of the body

was noticed as indicating the probability of an encysted state of the fluid pointing at that spot, with such adhesions to the abdominal muscles within, that the latter had become involved as part of the sack or cyst, in front, and the extended tumour thus formed or presented from the continued gravation of the fluid in that direction. From the time of the discovery of this pointing of the abscess, little change of the general symptoms ensued, unless perhaps an increased fulness and tension of the abdomen, and also an increased urgency and difficulty of respiration, which however depended on her situation; for, if elevated in the bed, she obtained some relief, but on returning to a supine position, these symptoms were aggravated; under these circumstances existence was sustained for little more than a week, when she expired suddenly as if from suffocation.

Dissection. On raising the external oblique muscle from the spine of the ilium, and dissecting the fascia towards the pubis, an opening was made in the cavity of the tumour just described, from which purulent matter flowed in a full stream, and it was now evident that the tumour had constituted the depending and prominent point of a great abscess. From the diseased state of the part from which the matter passed out, it was difficult to determine the exact original point of its escape, a ragged opening (large enough to admit a finger) communicated at the time of dissection with the sheath of the femoral vessels, so that the artery, vein, and nerve lay on the pudic side of the sinus, a tract through which the matter presented externally; the edge or border of Poupart's ligament, was somewhat indented or wasted by ulceration near its pudic attachment; part of the matter had dropped down by the side of the femoral vessels towards the insertion of the psoas and iliacus muscles. It seems probable that the matter first passed out below the margin of the transversalis, on the external or iliac side of the femoral vessels, and afterwards communicated directly with the sheath of those vessels by ulceration and waste of the intervening iliac fascia, and cellular substance The copious flow of matter, and the direction whence it issued, disclosed the existence of lumbar abscess: and upon slitting up the abdominal wall, a large cyst or sac was discovered occupying the whole of the right iliac cavity, and extending from the deepest concave surface of the liver, to which the sac was firmly attached, down to its outlet at the top of the thigh; the sac was rounded and prominent in front, and before part of the matter had escaped from the opening made in dissection, the sac must have presented a somewhat regular tumour occupying the whole iliac and part of the abdominal space of the right side. When the sac of the abscess was partly slit up from the opening at the groin, it was discovered that there were two separate and distinct abscesses, one directly over and upon the other, each having its own proper cyst without any communication between the two. The inferior abscess being emptied of pus presented an irregular cavity extending from the top of the thigh to the crest of the diaphragm, with some firm bands or tendinous slips, (the remains of the wasted psoas) standing across the cavity. The hollow space, or bed of the abscess, was also traversed by a regular network of blood-vessels, and by the nerves from the lumbar vertebræ which ran across the iliac region, to be distributed as the superficial or cutaneous nerves of the front and outside of the thigh On all these vessels and nerves running through the abscess, a good deal of rough floculent deposit had formed, giving them a thickened and rough appearance.

The lumbar vertebræ within the limits of the abscess were not obviously diseased, farther than by the signs of chronic inflammation of the periosteum and ligaments, that is, the bodies of the vertebræ were not affected by caries, but the transverse process of two of the vertebræ were rough and bare at the points, and broke down easy on pressure. The matter of the abscess was of a uniform pale yellow (straw) colour, consistent, inodorous without any loose floculent masses; no coagulæ of blood, in short, nearly the pure homogeneous pus of common suppurations, in amount perhaps two quarts.

The superior abscess, the separate cyst or sac of matter lying above, and upon the head of the other (the true lumbar abscess just described) contained two or three pounds of greenish yellow pus perfectly homogeneous; the situation and character of this abscess was considered very remarkable, and of difficult explanation, until the

question was put by a gentleman present at the dissection. *What had become of the right kidney?* It was then obvious at once that the superior distinct sac of matter was the right kidney degenerated into an abscess, the outlines of the sack still preserved distinctly the kidney shape. The whole interior structure of the gland melted down, and the sac or cyst formed of the thickened "tunica propria" of the kidney, and the reflected peritoneum united by adhesion. The cyst was easily separable into two laminæ corresponding with those two coverings. The cyst was united intimately over its whole inferior surface with the sac of the true lumbar abscess on which it lay. The interior of the sac very smooth, presented three separate sacculi or cavities, apparently dilations of the cells (the cotylæ or infundibulam) in which the tubulæ uriniferæ terminated. That this abscess commenced in the centre of the kidney, and was formed in the manner suggested, was rendered probable also by examination of the left kidney which was greatly enlarged, and a small quantity of matter was deposited in the cells behind the pelvis of that organ. Besides the very extensive abscess or degeneracy existing in this case, dissection disclosed a variety and extent of morbid condition, seldom occurring in the same subject, and calculated to excite astonishment that life could be so long maintained amidst such extensive impairment, and ruin of so many, and such important structures. It will be remembered that this case was regarded and treated as one of chronic visceral disease, (of the liver, spleen, &c.) complicated with abdominal dropsy. On opening the peritoneal cavity, it was found filled with the common venous effusion constituting dropsy of the abdomen. The liver was greatly enlarged, of a dark chocolate colour, with numerous bands of firm adhesion to the diaphragm, stomach, spleen, &c. The concave surface of the liver studded with many dense patches of effused lymph, and some vesicles containing serum; its interior structure, dense, hard, and very dark, from great congestion; no appearance of abscess.

The spleen was enlarged to a very great size, with many strong adhesions to the diaphragm and adjacent viscera; like the liver it was very dark, and a dense, firm mass throughout; the long axis of the spleen presented down the iliac region, its inferior extremity approaching the crest of the ilium. The kidney of the left side, it has been already remarked was greatly enlarged, and its tendency to abscess was manifested by a small collection of matter in the ducts near the pelvis. When the thorax was opened, the pericardium presented itself distended by fluid, containing, by conjecture, more than a pint of water; the heart was of large size, but sound.

The sac of the pleuræ on the left side was filled with water, and when cut open, the interior of the sac was studded all over with productions, or points, very white, much resembling the papillæ, seen after maceration, in the villous coat of the brute stomach. Many eminences within the sac of the pleura were half an inch in length; on its external (costolateral) surface, the sac adhered firmly to the pleura costalis, and the latter throughout to the ribs and intercostal muscles.

The left lung lying macerated in water, was so wasted, thin, and changed, as to present little appearance of pulmonary structure; when drawn out from its sac, its posterior part near the root preserved something of the pulmonary cellular (or tubular) character, and when cut into in many places, *pus* oozed out freely from every point; not from cysts, abscesses, or tubercles, (of which there was no appearance,) but from all the divided cells or tubuli of the lung.

The right pleural sac contained no water; the lung (rather small) exhibited externally nearly the natural appearance; when cut open in various places, matter flowed out of the divided cells or tubes, as from the more diseased lung of the left side.

The dissection was prosecuted no farther.

REMARKS.

Many features of this case seem extraordinary, when viewed in connection with the circumstances displayed by dissection. That both a great lumbar and renal abscess should exist with such partial signs of extensive organic destruction, is very re-

markable. Neither the frequent chills, the deep seated pain of the loins, the great numbness at the top of the thigh, with immobility of the limb, which are described as characteristic of the formation of lumbar abscess, attended the disease in the present instance in any appreciable degree, except the pain and swelling about the hip (of only two or three days continuance) the patient complained of no pain so great as to cause even partial inconvenience; the back was not referred to as a particularly painful part, and throughout her illness she possessed the use and movements of the right limb equally with the left (notwithstanding the psoas and iliac muscles were almost annihilated by suppuration)

It is possible, and indeed probable, from the extensive destruction of the parts, that both these abscesses had formed before the patient was admitted into the alms house; hence the signs proper to the early or forming stage, were passed by. Still it is surprising that such abscesses, even in their more chronic state, should have involved so little distress of feeling, or disability of power and motion in the part affected by the disease; and equally strange, that the constitution should have manifested so very partial and tardy a sympathy with such serious devastation of structure. It may be farther remarked, that the character of this abscess was somewhat peculiar in regard to the quality of the contained fluid. The matter was uniform, consistent pus without either floculent, curd like masses, or the coagulæ of blood, which generally abounds in lumbar abscesses. The tumour formed in the groin in this case by the gravitation of matter, did not at all recede in the recumbent posture of the patient, and could be only partially diminished by firm pressure. This, perhaps, in the present instance, was partly the effect of pressure on the abscess, by the water in the peritoneal cavity; but in all cases of psoas abscess which I have seen presenting at the same point (near the spine of the ilium,) the external tumour remained the same in all postures, and could scarcely be repressed. This fact is opposed to the assertion of authors; that recession of the tumour in the recumbent posture furnishes an important mean in the diagnosis of lumbar abscess. The sense of oppression, difficult respiration, and disability of lying fully recumbent, which are said to distinguish hydothoracic affections, were wholly absent in this case, although the unfortunate patient laboured under a formidable complication of dropsy, both of the pericardium and of the sac of the pleura; she could lie equally well in every position, and her breathing was free from any peculiar embarrassment, until almost the last moments of life, and although one lung was nearly annihilated, and the other greatly diseased, a slight occasional cough was the only indication of pulmonic affection. Upon the whole it may be said that this case strongly illustrates the difficulty of detecting, during life, the exact seat, nature, and extent of visceral disease. The rules of diagnosis furnished by writers for the discrimination of such affections, were nearly all contradicted by the facts disclosed by dissection in the present instance. This case establishes a question in pathology which has been the subject of discussion and controversy. It proves the possibility of purulent collections in the lungs, independently of true abscess formation from purulent matter abounding in every part of the lungs; yet there were no traces of vomicæ, suppurating cysts, or tuberculous degeneration; the matter flowed from the common cells or bronchial tubulous ramifications.

(*Report to be continued.*)

We publish entire the fourth prize Hospital Report from No. 14, Johnson's Journal for October, 1827, which we consider not only valuable and ineresting to the profession, but will also enable the pupils of our own public institution to form a correct idea of the mode to be pursued in drawing up these details.

I.

CHOREA.

Treated by Doctor CHRISTIE.

Case 1. Ann Turner, æt. 9, was admitted a patient, October 18th. The disease

is strongly marked; her arms, legs, and whole body, are continually in motion, partially lost articulation.

She complains of great head-ach, and her bowels are in a very constipated state, tongue white.

R. Hydr. subm gr. xij. antim. tart. gr. ij. ext. colocynth. c. ℈ij. ℿ et divide in pil. xij. capt. ij. omni nocte.

21*st*. Has taken some turpentine mixture, but her symptoms rapidly increase; she cannot stand without assistance, and is much emaciated; the bowels still rather bound.

R. Hydr subm. gr. v. pu v. scammon. c gr. x. ft. pulv. om. noct. sumend. et mane ℥ij. mist. aperien. in usu commun.

28*th*. Medicines have operated very freely, but the involuntary motions not at all lessened. Contin. mist. aper. om. mane, et capt. ℥ss. mist. sequent. bis die. R. argent. nitr. ℥ss aq. menth. p. ℥vijss. syrupi, ℥ss ℿ. ft. mistura.

Sept 4*th*. Nearly the same as last week, the symptoms not mitigated. Contr. pulv. scammon. c. calomel, et adde ol. terebinth. ℥ss. mistur. c. mucilag. accaciæ q. s. ut antea sumend.

11*th*. The mixture has made her very sick, bowels open, symptoms not at all abated. Capt ferri carbon. et pulv. jalapæ aa ℥ss. bis. quotidie.

18*th*. Involuntary motions slightly relieved, augeat ferri carb. ℈ij. et capiat ter quotidie.

25*th* Symptoms considerably better, can walk a little, abdomen enlarged, bowels rather costive. Rep. pulveres, et capiat ℥ij. mist. aper. in usu commun omni mane.

Dec. 2*nd*. Bowels very regular—walks with firmness. Pergat.

9*th*. Appears in every respect quite well, and latterly to have gained flesh. Dismissed cured.

Out of the great number of cases which have been admitted into this hospital, I never saw one more obstinate. In the beginning of the disease the girl was excessively weak and emaciated, and the remedies which were used very much increased her debility. The symptoms did not at all yield to the turpentine, argent. nitr. or indeed any of the medicines which were prescribed, till she began taking the carbonate of iron, and it was astonishing to see the good effect it had upon her, both with respect to her looks, and the irregular motions of her body.

I have seen her since she has been discharged; she has never had any return of her disease, and is now a stout healthy girl.

Chorea.—*Treated by Doctor* Gibney.

Case 2. Samuel Clapton, æt. 23, was admitted a patient, January 23d. Some months ago, (June last,) he was riding on a horse, that was drawing a water barrel, when by a sudden start of the horse it threw him off, as also the barrel, which passed over his left shoulder across the scapula; there was no external bruise, no deformity, nor was any bone broken; but on rotating the arm a crepitus was sometimes heard over or near the acromion of the scapula, as if a string jerked suddenly off the process.

He has general symptoms of chorea, uses his arm with some difficulty, and his fore-arm with still more. Tongue white, bowels costive, pulse slow; and, although he answers questions, yet he hesitates, and has a very vacant stare; clasps his fingers weakly. Appl. empl. cantharid. nuchæ, et postea ung. sabinæ.

R. Ext. sem. colch. aloes spicat. a ℈iss, pil. hydrarg. ℈ij. pulv. opii, gr. vj. ℿ ft. in pil. xxiv. divid. sum j. ter quotidie.

February 6*th*. Has to day considerable twitching of his hands, functions pretty regular. R. Liq arsenicalis, ℿ lxv. vin. sem. colchici, ℥ij. aq. fontis, ℥vj. syr. papav. ℥vj. ℿ capiat ℥j ter quotidie et pulv. jalapæ c. ℥j. 2d quaque nocte.

16*th*. Much the same as last report. Rep. mist. addend. liq. arsenicalis, ℿ xvj. R. Ol. terebinth. ℥j. p. accaciæ, ℥ss. aq. cinnam. ℥v. syrupi, ℥j. ℿ et capiat ℥iss. omni mane.

27*th*. Makes but slight progress. Indf. ung. antim. tartar, nuchæ.

March 13*th*. Is rather better since he used the ointment. Pergat.

April 3*d*. Has remained as last report, if any change, worse; still some discharge from the ointment; complains of giddiness in the head. Fiat v. s. ad ℥xx. Rep. pil. colch.—omit. mist. arsen.

April 10*th*. Has not made much progress of late; sores dried up; head relieved: Rep. mist. arsenic et terebinth.

17*th*. As usual not at all better. Capiat ferri carb. ℥j. ter in die.

May 1*st*. Has derived much benefit from the iron; in every respect stronger; tongue furred, but bowels regular. Pergat.

22*nd*. Improving. Pergat.

29*th* Has continued improving; is able to dress himself, and to work a little as a labourer; he is losing the jerking, and uses his hand. Capt. ferri carb. ℥iss. ter quotidie.

June 5*th*. Has still continued to gain strength from the iron; capt. ℥ij. ter quotidie.

July 3*rd*. Has gone on well, and is now able to resume all his usual employments; his countenance is altogether more intelligent, and he does not hesitate in his answers as formerly. Dismissed cured.

CHOREA.—*Treated by* Dr. CHRISTIE.

Case 3. Winifred Justin, æt. 8, was admitted a patient, Feb. 17th. She complained of head-ach; bowels hard, and very much bound; tongue furred; she is constantly affected with involuntary motions of the superior and inferior extremities, but more particularly of the right side; the motions cease during sleep. R. Hydr. subm. et. ext. colocynth. c. a. gr. v. in pil. ij. om. nocte sumend. et mane sequent. ℥iss. mist. aper.

24*th*. The medicines have acted very much, but the symptoms are nearly the same as last report. Cap. ferri carbon. et pulv. jalapæ, aa gr. x. bis quotidie.

March 2*d*. Bowels pretty regular; does not appear to be any better from the medicines. R. Ferri carb. ℈j. Pulv. jalapæ, gr. x. ℳ. Ft. pulv. ter. quotidie sumend.

10*th*. Involuntary motions alleviated; can walk steadier; bowels rather costive. Rep. pulv. add. pulv. jalap. gr. x. sing. dos.

17*th*. Much better. Pergat.

1*st*. Improving. Bowels regular: tongue furred. Increase the ferri carb. ad ℈ij. and take it, as before, with the pulv. jalapæ.

4*th*. Involuntary motions are now nearly subsided; the powders have kept the bowels freely open, and she can walk with firmness. Pergat.

April 14*th*. She appears perfectly well, and can work with her needle quite steadily. Continue the powders one week, and to be then discharged.

21*st*. Dismissed, cured.

II.

CASE OF CEPHALALGIA IN WHICH IODINE WAS EXHIBITED.

Treated by Dr. GIBNEY.

Ann Slater, æt. 24, was admitted a patient September 26th.

She complains of severe pain in the head, extending across the forehead, particularly on the right temple, which became worse at night; pupils dilated, even on exposure to light; and she seems of a very heavy disposition; pulse, tongue, catamenia, bowels, all regular; has suffered some months; never gets giddy. Appl. emplcantharid. nuchæ, et postea ung. sabinæ. Capt. pil. hydrarg. et ext. aloes spic. aa gr. iij. omni nocte et mist. aper. ℥ij. omni mane.

October 3*d.* No improvement. Pergat. R. Ext. belladonnæ, ℈j. Cerat. cetacei, ℥j. ℳ ft. ung. tempori applicand.

17*th.* The ointment at *first* gave decided relief, but lost its influence; her general health good. Capt. pil. aloes c. gr. x. o. n. et decoct. aloes c. ℥iss. omni mane.

21*st.* The medicines opened her bowels freely, but pain in the head as bad as ever. Appl. hirudines, vj. tempori.

R Hydrarg. subm. gr. iijss. Opii, gr. jss. Ft. pil. omni nocte sumend.

24*th.* The calomel and opium pills salivated her, which did her a little good, and the leeches relieved the pain for a time; her eyes have not the fixedness with dilated pupil as formerly; functions continue natural. Rep. pil. et hirud. capiat mis. aperien, ℥iss. omni mane.

November 15*th* Has (to use her own expression,) continued better and worse, except when salivated, which certainly relieved her a little.

R. Tinct. iodinæ, ℥iss. Inf. calumb. ℥vij. Tinct. sennæ, ℥vss. ℳ. Capiat ℥j. ter quotidie.

December 7*th.* The iodine seems to have entirely removed her complaint, and she was discharged cured.

Most probably there was some pressure on the optic nerves, which was removed by the influence of the calomel and opium, or iodine, or perhaps, both; but she had taken the iodine only four days before she received great benefit.

III.

GONORRHŒA, WITH IRRITABLE SORES.—*Treated by* C. AVERILL, *Esq.*

Case 1. Patrick Keefe, æt. 21, a labourer, was admitted a patient March 3d.

He states that his complaint first came on with a discharge from the urethra, and a scalding in making water, and that, for some time past, he had not been able to draw the fore-skin back. A fellow-labourer gave him some pills, which contained a great quantity of mercury, and salivated him. Mr. A. to-day divided the prepuce with a phymosis-knife, and found two or three irritable sores on the glans, and under-surface of the prepuce, in a sloughy state. He was ordered to apply lint, dipped in a lotion, composed of a drachm of nitric acid to a pint of water, over that a poultice of beer and oatmeal; allowed to drink a pint of beer daily; and to take ℥j. of the following mixture three times a-day. R. Quinin. sulph. gr. xviij. Acid. sulph. dil. ℥ij. Decoct. cinchonæ, ℥xij. ℳ. Ft. mistura.

March 6*th.* Appearance not improved. Apply strong nitric acid to the whole surface; continue the poultice, and take the beer and mixture as before.

14*th.* The sores increasing in size; repeat the application of the strong acid, dress it with resin cerate and the same poultice. Pergat.

17*th.* Sloughs caused by the acid separated; sores looking red and healthy, except on the margin of the frænum; the whole surface to be again touched with the acid, and continue as before; he complains of getting no sleep at night, for which, let him take one grain of crude opium in a pill.

April 10*th.* Some inflammation extending towards the body of the penis. Let six leeches be applied, and immediately afterwards a poultice. Sleeps better.

23*d.* From this time, the sores healed rapidly, and in a fortnight he was discharged cured.

This man had taken mercury during the inflammatory stage of gonorrhœa, and had been salivated. Mercury, among the lower orders of Irish, is generally resorted to for the cure of clap; of this class of people there are many in Cheltenham, and cases of the above description are by no means unfrequent. Two or three applications of the strong acid generally arrests the progress of sloughing.

Case 2.—*Gonorrhœa, with Irritable Sores. Treated by* C. AVERILL, *Esq.*

William Sullivan, æt. 22, was admitted a patient, April 19th. This was precisely

a similar case, in every respect, to Keefe's; he had phymosis, discharges from the urethra, and pain in making water. This man had also taken mercury during the inflammatory stage of gonorrhœa, and had been salivated.

January 21*st* Mr. Averill divided the prepuce, and found three irritable sores in a sloughy state, on the glans: a lotion of nitric acid, in the proportion of twenty drops to six ounces of water, was ordered to be applied, and a poultice of beer and linseed meal—to drink a pint of porter daily R Quinin sulph. gr viij. acid sulph. dil. ℥ss. Tinct. cinnam. ℥ss. infus. rosæ, vijss. ℿ ft mist. sumat ℥j. ter quotidie.

25*th*. The sores looking very unhealthy, with thick sloughs: apply the strong nitric acid, dress it with wax cerate, and continue the poultice, &c. R. Opii crudi, gr. vj. et divide in pil. vj. capiat j. omni nocte.

May 7*th*. Sloughs partially come away; repeat the application of the strong acid. Pergat.

14*th*. Sloughs entirely separated, sores less, and looking healthy. Continuent mistura, &c.

21*st*. Sores still less, and nearly healed. Pergat.

27*th*. Dismissed, cured.

IV.

CASE OF ANEURISM OF THE AORTA.—*Treated by* HENRY FOWLER, *Esq.*

September 14*th*, 1825, JOHN LEECH, æt. 60, a man of choleric temperament, and a school-master, was admitted a patient of Mr. Henry Fowler's. About three months previous to his application for relief, his temper had been roused to more than an ordinary pitch of excitement by the misconduct of one of his pupils, and, according to his own account, after his anger had abated, he became sensible of a sharp and lancinating pain in the interior of his chest; mental excitement or bodily fatigue of any kind after this increased his sufferings to such a degree, as not only to render him apprehensive of danger, but obliging him actually to overlook, and sometimes even to avoid noticing, the negligence and misconduct of his pupils, fearing that, if surprised into a fit of anger, the circumstance might prove highly painful, if not absolutely fatal to him. Till the present period, he had lulled himself with a hope, that a strict attention to a quiescent state of mind and body might eventually relieve him of his symptoms; but this expectation was disappointed by the appearance of a small and pulsating tumour, situated on the right side of the sternum, and projecting in a spot corresponding with the cartilage of the third rib With this tumour arose two fresh symptoms, one of which he compared to sudden gushes of water in the chest, and the other was, that if, by accident or intention, the swelling was pressed, it immediately induced a violent fit of coughing, and added considerably to the severity of his symptoms. It was at this stage of his complaint that remedies were first administered, but they could only be regarded as palliative, since they merely mitigated his sufferings, without arresting in any degree the progress of the disease: occasional venesection, with the use of the digitalis, were found the most efficient in affording him a degree of comparative comfort and ease, and were, consequently, persevered in to the last. In March, 1827, about a year and a-half from the commencement of his complaint, the swelling had increased to the size of a breakfast-saucer, in which strong and forcible pulsations were perceptible: with this increase of size, the symptoms became proportionally augmented; and, on the 14th of the same month, his sufferings were terminated by a rupture of the sac internally.

On dissection after death, which was sanctioned by the request of the patient when alive, the right lung was found adhering to the sac, and forming a considerable proportion of its parietes; the cartilages of the third fourth, and fifth ribs, with their anterior osseous portions, and part of the sternum, were absorbed, and the fore part of the sac was filled with a great quantity of fibrine, arranged in a succession of concentric layers, and forming altogether an homogeneous and dense mass, of the size of a large orange; this, with the superjacent muscular and cutaneous coverings, were removed from the right side of the sac, and its internal capacious cavity

exposed. A wash-hand basin full of coagulated and fluid blood was taken from the chest.

This preparation is preserved in the museum attached to this hospital, and we believe we may add, without fear of imputation for vanity or presumption, that it forms one of the best and clearest specimens of this disease in the kingdom.*

V.

INJURY OF THE HEAD.

Treated by CHARLES FOWLER, *Esq.*

Robert Freeman was admitted into the hospital, in consequence of an injury of the head. The patient was emptying a dry well; he had filled the bucket, and a labourer on the top had nearly drawn it up, when by some accident it slipped, and the whole weight fell with great force on the patient's head; he went on with the work for as much as an hour after the accident, apparently without inconvenience, except a little pain over the eyes. He however came down to the hospital, and ℥xvj. of blood were taken from the arm, and a dose of purging medicine given him; he felt the pain in his head quite gone.

April 21*st.* Early this morning Dr. M'Cabe was sent for (the man having been previously at work for him) I went with him, and found him in a very dangerous state, his face flushed, pulse extremely full and irregular, tongue furred, and he could not raise his head from the pillow. I again bled him to forty ounces with great relief. He was immediately afterwards brought to the hospital.

Mr. C. Fowler saw him at twelve o'clock, his face still very much flushed, pulse not so hard and a great deal more regular, pupils dilated, is a little delirious, and complains of great pain in the occiput; there was a slight cut in the scalp on the fore part of the cranium about two inches in length, but no fracture. His bowels have not been opened these three days. Ordered to take five grains of calomel, with a scruple of cathartic extract immediately, and ℥ij. of house mixture every second hour until the bowels have been freely evacuated, a large blister to be put to the nape of the neck, the head to be shaved round the wound, and apply a poultice.

7 *o'Clock*, P. M. The medicines have acted very copiously on his bowels; to take six grains of James's powder at eight o'clock.

22*d.* Delirium gone off, pupils still dilated, he has not such a wild look, but complains of great pain in the back part of the head. Mr. F. opened the temporal artery, and abstracted about ℥x. of blood.

23*d.* He says he felt more relief from the blood taken from the head, than the whole quantity before; pain quite gone; repeat the James's powder to-night.

24*th.* He reports himself to-day quite well, and wishes to get up; tongue still a little furred, bowels open; repeat the James's powder with the addition of 2 gr. of ext. hyosci.

26*th.* Allowed to get up and take a little boiled mutton for dinner; his bowels rather bound; to take calomel and James's powder, of each four grains, at bed time, and ℥ij. of house mixture in the morning.

May 6*th.* Discharged, cured.

VI.

INJURY OF A NERVE BY BLEEDING.

Treated by C. AVERILL, *Esq.*

Jane Sollis, æt. 38, was admitted a patient, December 25th. She had been bled in the right arm about a fortnight before; she states the orifice healed very well, but a day or two after her arm felt stiff and uneasy: thinking it rheumatic, and that it would go off, she neglected to apply for relief, until her arm got so excessive-

* The drawing may be seen at the Editor's.

ly painful and heavy, that she could get no rest either night or day. A blister was directed to be applied.

30*th*. The arm more painful; to take one of the following pills night and morning.

R. Hydrarg. Subm. gr. ij.
Pulv. Opii. gr. 1-2
Cons. q. s. ft. pil.

January 2*d*. The arm extremely painful, and cannot bear it to be touched; ordered to use the following embrocation frequently.

R. Extract. Belladonnæ, ℥ij.
Lin. Saponis. c. ℥ij. ℳ. ft. liniment.

9*th*. She thinks she was relieved when applying the liniment, but the pain was soon after quite as bad; equal parts of soap cerate and extract of belladonna, mixed, spread on leather, and bound round the arm in strips.

16*th*. The arm by far less painful, not so tender to the touch, and she can sleep better at night. Pergat.

23*d*. Considerably better in every respect. Pergat.

30*th*. Can straighten her arm without pain, and to-day discharged cured.

VII.

CASE OF FRACTURED THIGH ACCOMPANIED WITH HEMOPTYSIS.

Treated by CHARLES FOWLER, *Esq.*

Augustus Mayo, æt. 25, was admitted into the hospital, March 16th, for a fractured thigh, occasioned by the fall of a heavy piece of timber. On his admission he was observed to possess all the visible characteristics denoting consumptive diathesis, such as contracted chest, pallid cheeks, with occasional faint hectic flushes, together with that pearly whiteness of the sclerotica which is observed almost invariably to accompany the complaint.

For the first three weeks after his admission, he appeared to be going on extremely well, and then began to complain of a slight pain in his chest, which was shortly afterwards accompanied with an expectoration of mucus tinged with considerable quantities of scarlet blood: as his pulse at this time denoted strong arterial action, he was ordered to be bled, and this seemed to mitigate the pain, though the spitting continued to the same extent as before. A mixture of infusion of roses was now ordered him in combination with the digitalis, and an increased quantity of sulphuric acid, and the tartar emetic ointment to be rubbed upon the chest, after a perseverance in these remedies for some time, the symptoms gradually abated, and, about the sixth or seventh week, his splints were removed in order to ascertain the strength of the osseous union: the callus had been deposited so profusely as to form round the fractured extremities of the bone a globular mass nearly equal in size to the head of a new-born infant, but so deficient was it in the earthy material, that the weight of the leg itself was sufficient to bow the thigh at the fractured part: the thigh was now adjusted as before; the spitting suddenly ceased, the appetite, appearance, and strength rapidly improved; and, at the end of three weeks, the man was enabled to use his crutches—it is now the 12th week, and he can bear his weight to the ground, but the callus is diminished nearly one-half its original size.

Remarks. This case is curious in as much as nature had furnished one part of the osseous cement very liberally, even at the time the patient was suffering from hemoptysis; but when this symptom had entirely ceased, the earthy matter was abundantly supplied, and a large portion of the cementing medium removed.

VIII.

CATARACT.

Treated by CHARLES AVERILL, *Esq.*

Mary Bryant, æt. sixty, has had cataract in the right eye about three months. The left eye had been operated on for the same disease about a year ago, the pupil of which was closed: directed to take ten grains of Plummer's pill every night.

Nov. 18th. The operation was performed with Saunder's needle, which was introduced through the sclerotica, about three or four lines from the margin of the cornea; with this the lens was cut into several pieces, one of which was pushed into the anterior chamber. An anodyne draught was given. Extract of belladonna was applied daily, during the continuance of the slight inflammation caused by the operation, and purgatives given occasionally.

Jan. 13th. A considerable degree of absorption had taken place round the margin of the lens; the light was stronger, and when the belladonna was applied, a space round the margin of the pupil was clear, and the portion of lens which had been left in the anterior chamber was absorbed. To-day the operation was repeated.

Feb. 24th. A small portion of the hardest part of the lens remaining in the centre of the pupil, the operation was again repeated; this portion was depressed into the vitreous humour; a small part of which, in nearly a fluid state, escaped when the needle was withdrawn. In a few days the inflammation caused by the operation subsided, and she was discharged, having very good vision.

IX.

AMPUTATION OF THE THIGH THROUGH THE TROCHANTER.

Treated by CHARLES AVERILL, *Esq.*

Simon Spicer, æt. 17, admitted on the evening of May 29th. He had suffered some time from an inflammation of the synovial membrane of the knee joint; at the time of his admission suppuration had taken place to a very great extent; the matter extended along the tendon of the rectus muscle, and on the inside of the thigh nearly to the groin: he was hectic, and had every bad symptom usually attending the formation of large quantities of matter; over the great trochanter the integuments had ulcerated; from the pressure of that part of the bone, all the soft parts being very much wasted; the same was the case on the sacrum. The case altogether was regarded as nearly hopeless: however it was thought amputation of the limb, provided he could survive the operation, might afford him a chance of recovery.

On the 30th, the operation was performed; the artery being compressed in the groin, a narrow-bladed catlin was the knife used, and two flaps, including as much muscle and integuments as the diseased parts would admit, were formed by thrusting the instrument through the soft parts of the thigh on each side of the bone, and cutting from within outwards; the bone was sawed through the trochanter. Very little blood was lost during the operation; four vessels were secured, when he was put to bed quite faint; some wine was given him, and half an hour was suffered to elapse before the flaps were united, which was effected by means of two sutures and adhesive straps. Small doses of opium and ammonia were given at short intervals, and beef-tea and wine were allowed him; towards evening he recovered, was free from pain, and expressed himself as feeling comfortable.

On the 31st, secondary hemorrhage came on to such an extent, as required the stump to be opened; another vessel was secured; he again became faint; musk, wine, ammonia, &c. were occasionally given, which kept him alive to June 1st, eleven o'clock, P. M. when he died

Had not the secondary hemorrhage come on in this case, it was thought he would have had a fair chance of recovery. On examination of the parts after death, it was found that the small remaining portion of the thigh bone was healthy. The cartilages, and part of the ligaments of the knee-joint, were destroyed by ulceration.

Amputation of the Leg.

C. AVERILL, *Esq.*

Thomas Guteridge, æt. 37, was admitted into the hospital June 25th. He had suffered at different times from a small sore on the inner side of the left ancle joint for the last two years; during which time his general health had been very indifferent, for which he had been treated by Dr Hawkins, of the Middlesex hospital. At the time of his admittance into this hospital there was an abscess as large as an egg, situated on the dorsum and inner side of the foot, which had been opened, and con-

tinued to furnish a great discharge of matter; from this abscess sinuses passed in different directions, one leading beneath the muscles of the sole of the foot to the under part of the metatarsal bones; the introduction of the probe gave him such excruciating pain that he would not submit to its being passed either to the ancle-joint, or to those of the tarsus; but, from the external appearance, there was little doubt the bones were diseased. His health was rapidly declining; he was hectic, had profuse night sweats, quick pulse, and irritable cough. Amputation was recommended. In a day or two he made up his mind to submit to the operation; in this time the leg had become œdematous to the calf. The operation was performed rather higher than the usual place below the knee; four ligatures were applied, and he was directed to take ℥j. of the following mixture every two hours:

℞. Ammoniæ carbonat. gr. xxiv. liq. ammon. acet ℥iij. opii. sedativ. ♏. xxiv. mist. camphoræ, ℥iij. ♏. ft. mistura.

In a few days the hectic symptoms subsided; he was ordered to omit the mixture as above, and take the one now prescribed; allowed meat diet, and a pint of porter daily:

℞. Quinin. sulphatis, gr. xv. acid. sulph. dil. ℥ss. sacch. albi, ℥ss. infus. rosæ, ℥vj. ♏. et capiat, ℥j. bis die.

All the ligatures came away in less than three weeks.

Aug. 4th. The stump is healed, and he waits for his wooden leg to be discharged.

On dissection of the limb, a sinus was opened leading from the abcess to the ancle-joint; the cartilage of the tibia, as well as the astragalus, was in a state of ulceration, and there was a considerable quantity of pus in the joint.

In cases of amputation below the knee, Mr. A. prefers doing the operation rather higher than the place usually recommended, sawing through the bones immediately below the head of the fibula; by this means the small remaining portion of the leg which projects backwards may be hidden by loose trowsers, and the deformity rendered less than it would otherwise be.

X.

OSTEO-SARCOMA OF THREE FINGERS.

Treated by CHARLES AVERILL, *Esq.*

The patient, Moses Gay, was admitted into the hospital July 4th. He gave the following account of the disease:

The tumours began forming when he was about four years old, and continued gradually to increase. The skin on the top of the enlargement on the fore-finger, had been some time ulcerated, showing part of the bony tumour in a state of necrosis, and from which there continued to issue a very offensive discharge. There had been, too, a considerable ulcer on the middle finger for some time past. He was occasionally in the habit of correcting the offensive nature of the discharge by the application of nitric acid wash, which had also excited the exfoliation of small pieces of bone. The disease had, to a certain degree, impaired his general health, in consequence of which he had been several times recommended to have the whole hand amputated, to which he would not consent, as, it being his right, he would have been completely disabled from following his trade, that of a carver and stone-cutter: but when he was told that his thumb and little finger might be saved, he readily consented.

July 8th. The three fingers, with part of their metacarpal bones, were amputated by Mr. Averill; who, with a straight-bladed bistoury, dissected back a flap of skin from the dorsum of the hand, then carrying the knife between the metacarpal bones of the thumb and fore-finger, separated them from each other, avoiding as much as possible the muscles of the thumb; the soft parts in the palm being divided, the metacarpal bones of the ring and little finger were separated from each other, and the metacarpal bones supporting the disease sawed through with a metacarpal saw.

It may be worthy of remark, that not a single blood-vessel required a ligature after the operation, though the palmar arches must have been cut. Two or three sutures were applied, and the wound lightly dressed. In about three days considerable hemorrhage occurred, which was stopped by pressure. An abscess afterwards formed

in the sheath of the flexor tendon of the little finger, which was opened early, and soon healed.

Aug 10*th*. He is able to take up and hold small bodies, such as a pencil, &c. and was to-day discharged.

The weight of the three fingers when removed was two pounds. The cavities and interstices within the bony tumours were in the recent state filled with a substance resembling jelly, in which portions of bony matter were deposited. The diseased bony structure forms a beautiful dry preparation, which is preserved in the museum attached to the hospital.

XI.

STRANGULATED FEMORAL HERNIA.

Treated by CHARLES FOWLER, *Esq.*

William Werret, æt. 60, was admitted into the hospital May 21st, for a strangulated femoral hernia on the left side.

The operation was undertaken with very little chance of success, as the strangulation (owing to the negligence of the overseers and relations) had existed five days previous to the man's admission; added to this, his appearance was so decidedly cachetic and emaciated, and indicated so low a state of the powers of life, that even if the patient had presented himself at an earlier period of his complaint, the surgeon would have drawn but an unfavourable prognostic as to the final result of the operation.

Too much time had been previously lost, to warrant any further waste of it in the protracted trials of the ordinary means of reduction. The taxis and warm-bath were of course resorted to; but these being found inefficient, the man was immediately placed upon the table, and the operation commenced; the incisions were made after the usual method, viz. a transverse and longitudinal cut through the integuments, and over the tumour, in such a manner as to give the operator the best command of the sac and its coverings; these latter were successively and carefully dissected through, and the sac opened, when a nodule of intestine, and a portion of omentum, strongly and extensively adhering to it, were brought to view; a director was then slid under the stricture, and a probe-pointed bistoury passed along its groove up to the strictured part, which was immediately divided by gently urging the latter instrument, in a slanting direction, towards the umbilicus.

Mr. C. Fowler having finished the operation, and the wound being dressed, the patient was carried to his bed; he expressed himself as greatly relieved; his pulse, from an intermitting state, became firm and regular; there was no anxiety of countenance, no swelling, nor tension of the abdomen; and, after repeated doses of purgative medicines, with enemas, his bowels were copiously relieved; indeed every symptom till the next day furnished us some hopes of success. When Mr. F. came the following morning, he found him sleeping, with his mouth open, which, added to his general cadaverous looks, gave him the appearance of a man in the last act of expiration: we closed his jaw, but, on removing the support, it fell again, so completely had the temporal and masseter muscles lost their power of contractility; we looked upon this symptom as pretty strong evidence of the weakened state of the vital powers: on examining the abdomen, it had become quite tense and tympanitic; the pulse was fluttering, quick, and imperceptible; we awoke him from his stupor, but he quickly relapsed into it again: the symptoms of dissolution speedily increased, and, on the following night, the man expired.

Dissection. The appearances, on dissection, were not by any means of a formidable character, though the strangulation had existed five days previous to the performance of the operation; there was not the least approach to gangrene in the strictured part; a general and very intense redness, indicating inflammation, was all that could be observed.

Thus, the man seems to have died for want of that energy in the vital powers which would probably have supported a younger and more favourite subject through a severer and more powerful shock.

XII.

NEW METHOD OF CLOSING THE MOUTHS OF JARS CONTAINING WET ANATOMICAL PREPARATIONS.

The advantage of the method about to be described, consists in its occupying much less time than the one usually employed of tying over the mouths of jars with macerated bladder, &c. it has also a neater appearance; it is adopted by Mr. Averill, who has permitted me to make use of it in my reports from this hospital The wet preparations in our museum are nearly all preserved in this manner, and many of them have been put up near two years, without any loss of the spirit contained in the jars having taken place. In a pamphlet, the principal part of which is translated from the French, by Dr Chichester, entitled "Instructions for Collecting, Preserving, and Transporting such Specimens of Natural History as appertain to the Animal Kingdom," the doctor describes a cement used by Monsieur Person, for the purpose of coating externally the corks with which he had closed the mouths of his glass jars. This cement or bite is easily prepared, dries, and acquires complete solidity as soon as applied, it is not acted on by the spirit, adheres to the glass, and does not fall off. It is composed of the following materials.

Pitch, (brai sec des marins.)
Yellow wax.
Oil of turpentine, of each two ounces.
Red ochre, well powdered, six ounces.

Let the pitch and yellow wax be melted together, then add the turpentine and red ochre, boil it for a few minutes, taking care that it does not catch fire.

The manner in which Mr. A. uses this cement is as follows The preparation being suspended in the jar in the situation in which it is intended to remain, a piece of sheet lead (such as is used for lining tea chests) is cut rather larger than the mouth of the vessel, so that it shall overlap the margin or rim round. The cement being melted, the under surface of the lead is completely coated with it by a painting brush, when it is instantly laid over the mouth of the jar, and the border of the lead pressed up smoothly with a spatula over the margin. The cement dries almost instantly, and completely seals the vessel. Mr. A. then paints the surface of the lead with a mixture of lamp-black and black japan, and afterwards with one coat of japan alone.

The accompanying preparation of tubercle of the liver is preserved in the above manner; it may remain with Dr. Johnson for some time, for the inspection of those gentlemen who may feel disposed to adopt the above method: the spirit in this case is rather tinged with bile, and is slightly turbid, owing to the preparation having been put up rather too soon. CHARLES W. TURNER.

Cheltenham Casualty Hospital.
August 15th, 1827.

We trust the following observations of Dr. Johnson will have the desired effect, not only in Great Britain, but in other countries where Hospital Reports are given in like manner.—*Eds. Med. Recorder.*

Hospital Reports.

Six important Hospital Reports reached us during the last quarter, and a seventh was nearly prepared for us, when *two of them* were interrupted (after one had actually been printed) by the seniors of certain hospitals, (which, *at present*, shall be nameless) on the plea that such reports are not *warrantable*—and, moreover, that the cases occurring in hospitals are the *private property* of the physicians and surgeons of such institutions, and, consequently, that none else have any right to publish them! We shall not condescend to argue with these petty tyrants, who would monopolize—not the *improvements* of medical science, but the whole of the ignorance and obstinacy of the healing art, to themselves. They dare not allow records of practice to see the light, unless *manufactured* by themselves! Their objections to anonymous hospital reports, where party-spirit and personalities are sometimes indulged, would have some feasible basis to rest on; but when a gentleman, who daily

walks the hospital, offers to the world a faithful transcript of the facts presented to his view, authenticated by his own name, the objections to such publication must arise from causes which we dare not trust our feelings, at present, in characterising by their proper names. The personages in question, however, are on the eve of annihilation; and even the short span of their worthless existence which is yet to run, will assuredly be embittered by the complete frustration of their feeble, selfish, and unchristian endeavours to cramp the diffusion of useful information, lest their own imbecility should be exposed. The eagle eyes of the press are already gazing on the transactions of public institutions—and the present generation of students *will* bring before the public the good and the evil practice of hospitals—the former for imitation, the latter for reprobation. In doing so, they are violating no compact, so long as they keep to a simple record of facts, without partiality or misrepresentation. On the contrary, they are contributing to the erection of the most splendid edifice that ever reared its head in medical science. Let them not be intimidated by the threats of a few individuals, whose utter and reckless disregard for all public utility, for all honourable distinction—in short, for all things but selfish, paltry, pitiable pelf, is a disgrace to the philosophic spirit of the age in which we live. Students who choose to publish, fair, accurate, and authenticated accounts of hospital practice, are under no obligation to consult the opinion, or solicit the sanction of MOLES, who hate the light—of INCUBI, who press, with all their leaden Lethean weight, on the vitals of the profession—of UPAS trees, in the field of science, whose presence marks the centre of a circle of sterility—of VAMPYRES, who would suck the stream of knowledge from public charities, and bury it in the earth calling it *their* private property—in fine, of a few remnants of ignorance and VANDALISM, whom the temper of the TIMES, and the spirit of the PRESS, will soon scourge off the stage! In despite of these personages, the department of PRIZE HOSPITAL REPORTS in this Journal flourishes—and will continue to flourish. We have awarded two prizes this quarter, and shall award two or more prizes in our next.

And here we cannot help taking some credit to ourselves for thus giving such a decided impulse to the important act of recording and publishing Authenticated Hospital Reports. We have no hesitation in prognosticating that, if the practice becomes general, of which there is every appearance, it will be the most beneficially operative improvement that ever took place, in this or in any other country. The salutary effects will be felt in a variety of ways. The practice of taking accurate notes of hospital cases necessarily produces a habit of accurate observation, which will tell advantageously on every subsequent stage of the individual's professional life. The prize accorded to the student in this way, is the premium best adapted for his situation and years. His *perceptions* are all in the highest degree of acuteness, and it is the exercise of *these* which we want in the *faithful record of facts*. His judgment and reflections may be exercised to advantage at a later period. These hospital reports, guaranteed by the name of the reporter, prove at once a stimulus, and a check on the superior medical officers, while there is a perfect security against wilful misrepresentation on the part of the recorder. Thus the best effects will result from this system, as regards the medical officers, the students, and the institutions themselves. Of what inestimable advantage to the public will be these authentic records of hospital practice, we need not say. The most plodding routinist will not hesitate to consult these portraits of diseases in all their varied forms, for the sake of benefitting in his own private practice—while the most determined sceptic will not venture to hint any doubt of the *truth* of reports thus verified by the best of all vouchers—an appeal to the evidence of the senses of the whole of the officers and students of the hospital. The importance and utility of this system will soon be so manifest, that, ere long, a whole journal will probably be dedicated to BRITISH HOSPITAL REPORTS alone. Till that period arrives, we request the candidates for prizes in this Journal, to observe carefully, and record faithfully—to study brevity and perspicuity in their language—to curtail, as much as possible, the minute diurnal details, but preserve the prominent phenomena of the disease, the principal remedies employed, and the ultimate issue of events. By so doing, they will give an early proof of their assiduity to their friends—while they will confer an immense advantage on the profession and the public at large.